November 1931

Drug Markets

Established 1914

The Magazine of the Manufacturing Drug Trade

The Magazine for Manufacturers of Pharmaceuticals, Toilet Preparations, Proprietary Medicines, and Flavors. Of primary interest to executives in direct charge, or supervising purchasing, production, and technical control, and for executives concerned with general administrative problems of the industry.

Editorials 433
Price Demoralization—New Products—Retailers' Credits—Drug Trade Legislation—Manufacturers and the Drug Survey

Feature Articles
- Congress and the Drug Trade 437
- Wholesalers' Complaints 440
- Manufacturers and the St. Louis Survey 445
- Identification of Rhubarb 447
- Labeling Glandular Products 449
- Gluconic Acid and Gluconates 451
- Modern Drug Production 453
- The Psyllium Trade 455
- Deterioration by Light Through Glass 457
- Bath Cosmetics 459
- Colloid Mill or Homogenizer ? 463
- For Plant Managers 469

New and Non-Official 433
Ten Years Ago 433
Industry's Books 454
News 473
Patents 508
Abstracts 510
Raw Material Prices 513
Drug Market Place 518
Buyer's Guide 420
Index to Advertisers 520

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PHARMACOLOGY

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VOL. XXIX DRUG MARKETS, INC. NUMBER 5
PUBLISHERS
Publication Office, 28 Renne Ave., Pittsfield, Mass. Editorial and General Office, 101 W. 31st St., N.Y. City
Editor THOMAS R. FARRELL
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PUBLISHED MONTHLY AT PITTSFIELD, MASS., SUBSCRIPTION PRICE, TWO DOLLARS A YEAR, IN ADVANCE, POSTAGE PAID TO ALL COUNTRIES, THREE WEEKS' NOTICE IS REQUIRED TO CHANGE SUBSCRIBER'S ADDRESSES, AND WHEN NOTIFYING KINDLY GIVE BOTH OLD AND NEW ADDRESSES; PRINTED BY THE SUN PRINTING COMPANY, PITTSFIELD, MASS. ENTERED AS SECOND CLASS MATTER, JANUARY 1, 1928 AT THE POST OFFICE. AT PITTSFIELD, MASS., UNDER THE ACT OF MARCH 3, 1879.

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Under our column "Cum Laude" we have published letters from buyers, chemists, plant managers and others engaged in manufacturing pharmaceuticals, proprietaries, cosmetics, flavors, etc., which have shown a real appreciation of the book from all parts of the trade.

Now, with special pride we print some of the letters received from colleges and universities on receipt of the first edition of Drug Markets Catalog and Directory.

Lloyd K. Riggs, *Director of Research,*
New Jersey College of Pharmacy

I wish to express my very sincere appreciation of Drug Markets Catalog and Directory. It will be placed in the College library as soon as several members of the research department have had time to look up some matters of interest to them.

R. Norris Shreve, *Professor of Chemical Engineering,*
Purdue University

It gives me much pleasure to acknowledge receipt of this book and to congratulate you upon the work that you have done.

The entire book is a most useful one and I congratulate you upon your accomplishment and shall call the volume to the attention not only of my students but to many of my friends in industry.

P. H. Dirstine, *Dean, School of Pharmacy,*
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I have looked this over carefully, and I find it a very valuable publication. I am sure we will have occasion to make use of it many times during the year, and I want to thank you for your effort and trouble in getting out a publication of this sort. Only a day or two ago I had an inquiry which, had I had your book, I could have found exactly what I wanted. As it was, I had difficulty in securing the information. I think you are to be complimented upon this piece of work.

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University of Illinois

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University of Notre Dame

A most valuable publication—something I have long wished for—I congratulate you enthusiastically.

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I like the arrangement of the material very much and I feel sure that we will make full use of the book.

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The copy of Drug Markets Catalog and Directory has proven, upon perusal, a very interesting volume indeed. It ought to prove a handy reference work on numerous occasions.

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I have not examined the book very carefully as yet but from glancing through it I believe that you have covered the field very thoroughly and have supplied a reference book for which there will be real demand in certain quarters. As to our own work here at college, it will save a great deal of time in finding out companies from whom to get equipment and supplies.

Harold Russell, *The University Library,*
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We are very glad indeed to have the opportunity to make this volume available to our professors and students.

Homer T. Newton, *Assistant Professor of Chemistry,*
The University of Pittsburgh

I received the 1931 Catalog and Directory and am well pleased with it. I shall find much use for it in my work.

Walter M. Smith, *Librarian,*
University of Wisconsin

We are sure that this work will be found useful by the faculty and students of our School of Pharmacy and others.

F. A. Gilfillan, *School of Pharmacy,*
Oregon State Agricultural College

We find that it has saved us a considerable amount of time, as we are able by reference to the directory to get into touch with the makers of the materials which we require.

Sections C, D and E have been particularly valuable to us. We appreciate the specifications of the different grades (C.P., U.S.P., B.P., or Tech.) listed for the various items.

W. F. Sudro, *Dean, School of Pharmacy,*
North Dakota Agricultural College

I have examined this book quite carefully and I find it to be very complete in all of its sections. This book will prove to be of value to us in our work here and again I wish to express my appreciation for this book.

Clair A. Dye, *Dean, College of Pharmacy,*
The Ohio State University

We have not been able to examine it as thoroughly as we should like to do, but every case where we have had occasion to refer to it we have been surprised at the thoroughness of the information contained therein. From these casual references to it we feel that it supplies a long felt want, especially for those who are seeking information relative to drug products. We feel that you are to be complimented on the amount of material contained therein and the ease with which this information may be obtained.

E. P. Stout, *Dean, College of Pharmacy and Chemistry,*
Detroit Institute of Technology

Kindly accept our thanks. It is a wonderful collection of important data.

C. N. Skidmore, *Purchasing Agent,*
Northwestern University

This book will be of very great value to us in our work here and I personally wish to thank you very much for the publication.

T. J. Bradley, *Dean,*
Massachusetts College of Pharmacy

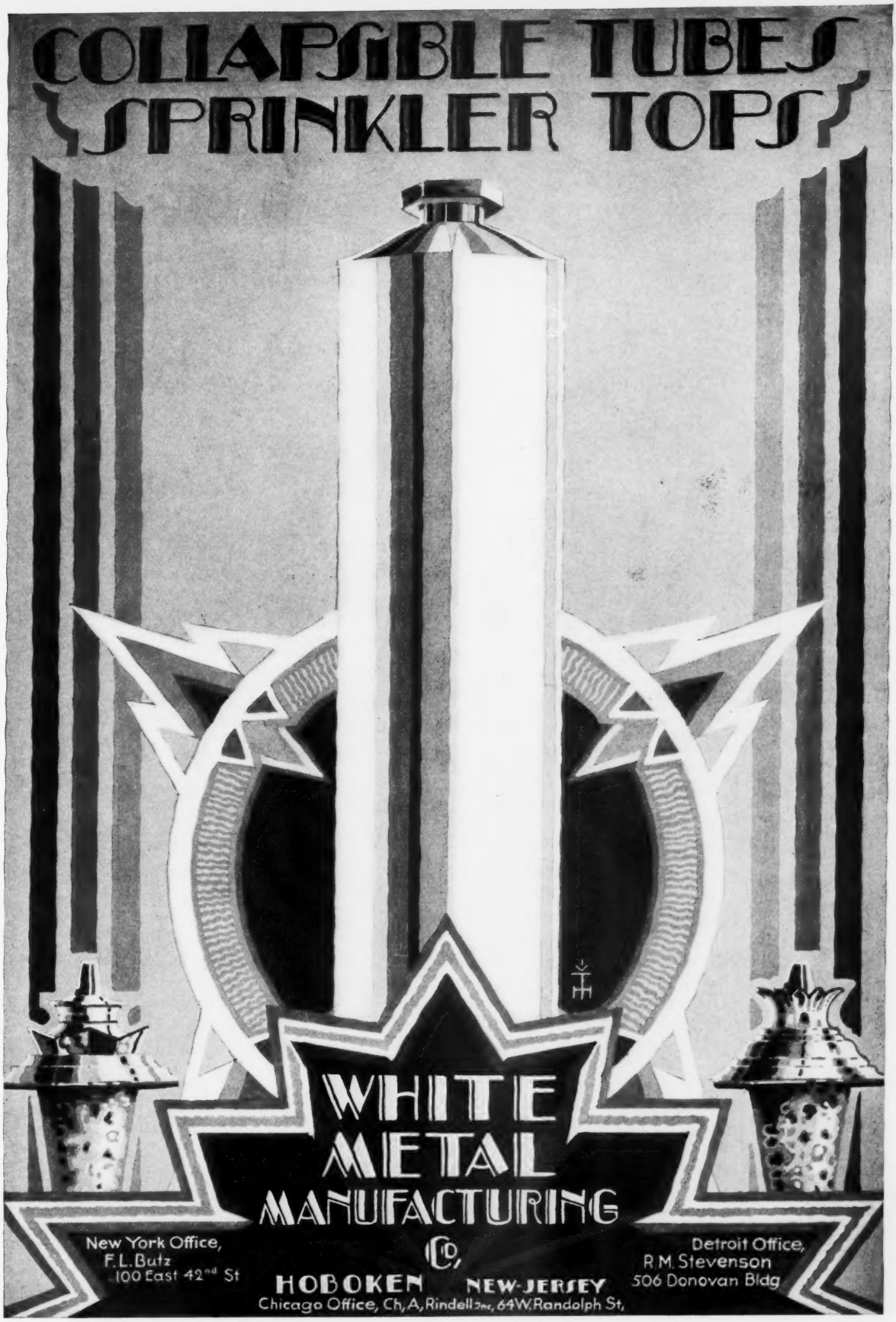
You have evidently put a great deal of work into this publication and I believe it will be very useful.

W. Paul Briggs, *Assistant Dean, The School of Pharmacy,*
The George Washington University

A brief inspection indicates that it will be of real value and I am pleased to commend your efforts.

H. C. Newton, *Dean, College of Pharmacy,*
The Creighton University

We believe it will prove to be a very valuable reference book.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7. About 99% will pass thru a 400-mesh screen
8. Inert, neutral and physiologically harmless
9. Contains no free lime
10. Free from arsenic, lead or other poisonous metals or their salts

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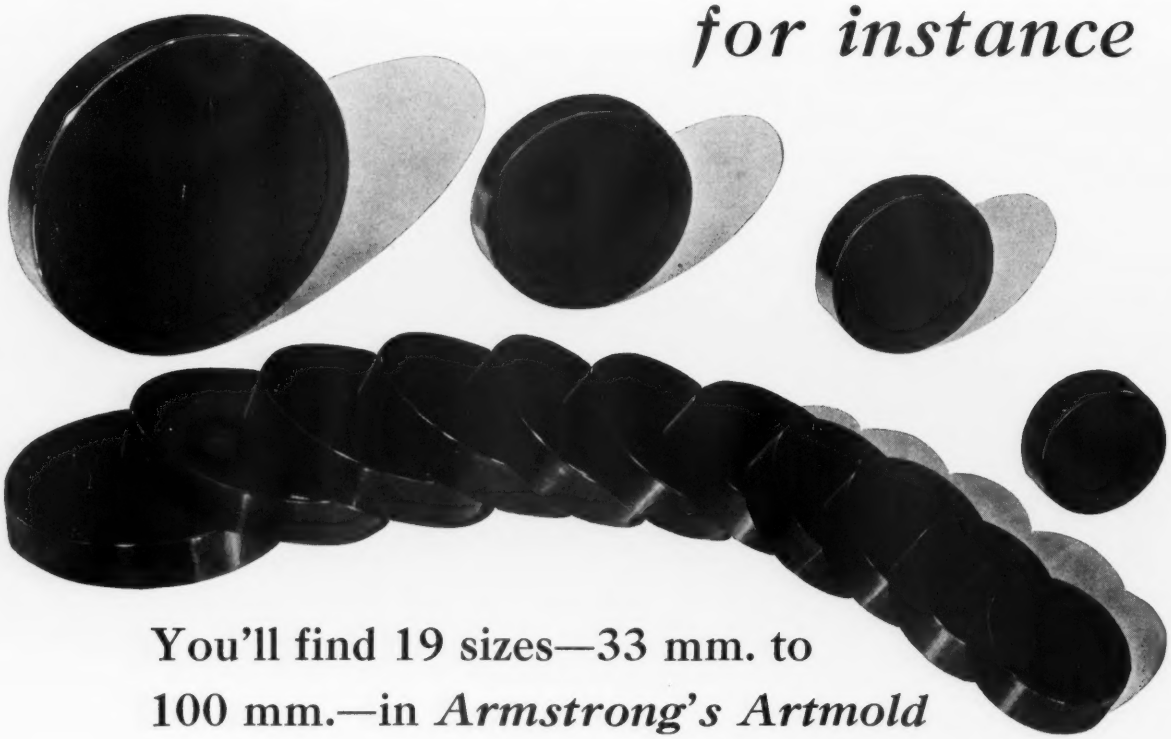

You'll find 19 sizes—33 mm. to 100 mm.—in *Armstrong's Artmold Jar Covers* . . . one of the distinguished closures in this all-purpose line

PURSES OPEN AT THE SIGHT *of these well-designed packages. Jet black Artmold Jar Covers, lustrous chrome jars, and neat, legible labels are harmoniously combined in this Agnes Sorel line, packed by Stearns of Detroit. May we help design or redesign an artistic package for you?*

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Anchor stands ready to assist you in the modernization of your packages—from the standpoint of looks, efficiency, and packaging economy.

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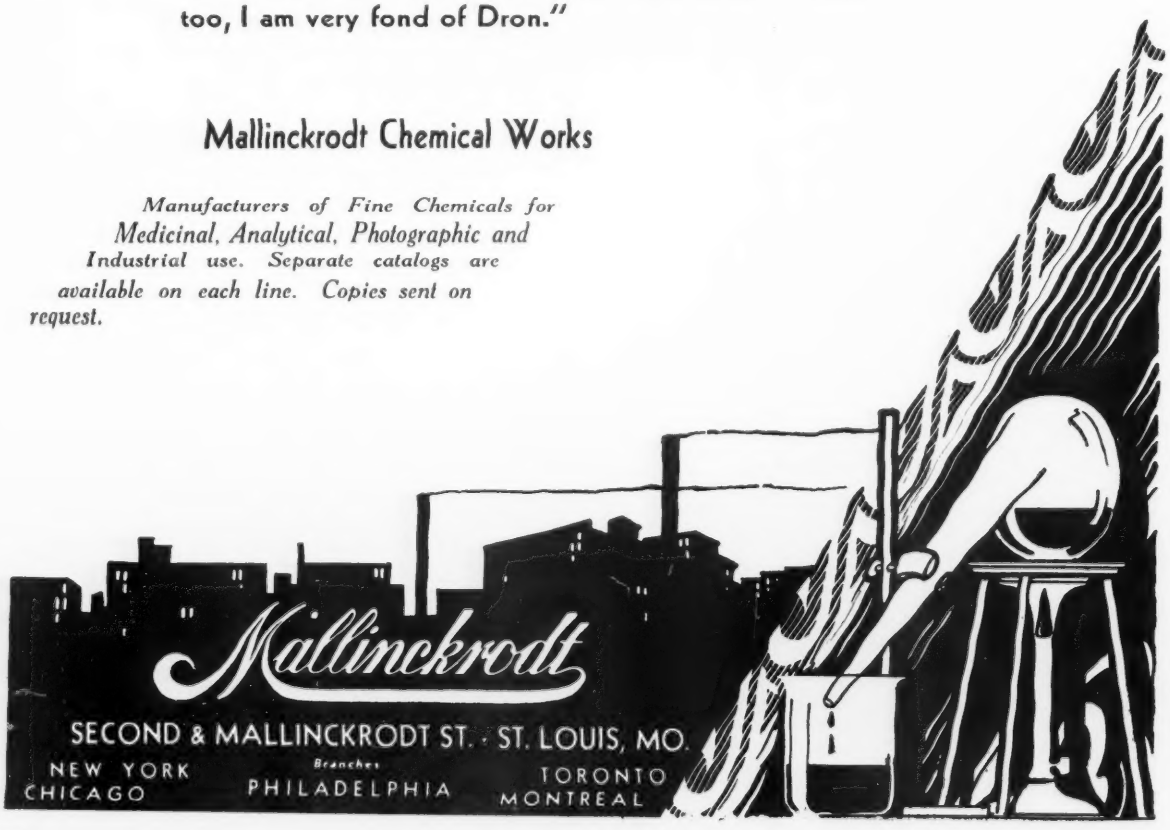
Mallinckrodt Chemical Works

Manufacturers of Fine Chemicals for Medicinal, Analytical, Photographic and Industrial use. Separate catalogs are available on each line. Copies sent on request.



Drug Markets

Vol. XXIX NOVEMBER 1931 No. 5

Price Demoralization

SOME manufacturers beset by the problem of price demoralization in the sale of their products at retail are apparently waiting for some co-operative scheme to be evolved by manufacturers in general. These manufacturers feel keenly the loss of retailers' co-operation. They know that the condition existing in the retail trade today is not healthy for anyone. Substitution and switching are rampart, particularly upon those goods whose manufacturers have long failed to attempt to control retail prices in any degree. Some of these manufacturers ask excitedly: "what are we going to do about it ?"

TO THESE manufacturers we wish to state that there will never be any definite co-operative plan among manufacturers completely to control the situation. And we wish to state to those manufacturers who in a state of panic might throw their support to the Capper-Kelly Bill, that this measure will never solve the problem and would probably place manufacturers in a worse position than they are in today. There will always exist manufacturers of unknown merchandise who, remaining outside of a co-operative movement would defeat the purpose of such a movement, or who would do a thriving business in low priced merchandise under the Capper-Kelly Bill.

TO THOSE manufacturers who would ameliorate the situation in regard to their own goods, there are many plans open. But all such plans involve the expenditure of money. To those who ask, "what are we going to do ?", we answer: Lehn and Fink are doing something; Dr. Miles Medical Company is doing something; Lambert is doing something; Squibb is doing something; Carl Weeks is doing something.

THE main purpose of any of the plans of the several manufacturers who are fighting price demoralization is to prove to the retailers that the manufacturers will spend real money to protect the business of those retailers who are really willing to support such manufacturers. None of the plans are perfect. None of the plans permit of complete price control by the manufacturers. But all the manufacturers in question at least force price-cutters to stand an actual loss when their goods are sold below the one-price-to-all policy that the manufacturers maintain. And at least one of the manufacturers has in two instances told retailers in territories demoralized by a price-cutter to sell his goods at the same prices as the cutter, and the manufacturer would rebate the difference.

New Products Recently we called attention to the fact that the depression has stimulated rather than diminished the activity on the part of manufacturers to bring out new products. While since that time there has been a decline in the tendency of some of the more firmly entrenched manufacturers to pursue this course as a means of holding up their sales curves, and consequently their profits, new products are certainly as plentiful today as they have been at any time in recent years.

It would appear as though many drug manufacturers are swinging back to that state of conditions which was abandoned a few years back. Despite the fact that a multitude of products increases expenses all along the line for the same volume of business, manufacturers evidently feel that there is always a chance that one of the new products might prove to be the one product that will give them the large volume which they are seeking. In other words, every product which manufacturers bring out is looked upon as a potential "winner".

However, if manufacturers would spend on the selection and preparation of every new product the time and effort necessary to produce a winner today, there would be greater justification for this condition. But, if manufacturers are to continue to bring out new products regardless of any uniqueness or greater efficacy than those already on the market, we fail to see how the drug market will be improved in any marked degree.

• • •

Retailers' Credits Perhaps the one problem bringing the greatest grief to manufacturers today is credit. Frozen and worthless accounts loom large on the books of practically all manufacturers at the present time. And how to continue at least to attempt to maintain volume and profits in the face of the small credit extensions that can be granted today, is proving the bane of more than one manufacturer's existence.

One drug manufacturer who boasts that October 1931 produced the greatest volume of sales of any month in the history of the company is said to work on a plan something like this: payment within thirty days, 3 per cent. discount; payment within 60 days, 2 per cent. discount; payment within 90 days, 1 per cent. discount, payment within 120 days, net. Another manufacturer is said to be extending 90 or 120 days to retailers on his goods.

Doubtless manufacturers who have surplus cash which can not be used to produce any great return, see an advantage in placing this money at the disposal of those retailers who are worthy of credit. By such use of the money manufacturers doubtless feel that they can make friends in the trade who will grow in importance as time goes on. There is no denying the fact that financial aid at a time such as the present is not soon forgotten.

But from another viewpoint it might be considered that these manufacturers are really putting their goods out on consignment. For if a retailer can not turn his goods over more than three times a year, it is difficult to see how he is going to remain in business for any great length of time. Certainly manufacturers by this practice are condoning inefficiency in drug retailing and are placing the retailers whom they aid in a more advantageous position than their competitors.

But even though manufacturers are willing to extend to retailers these long terms of credit; and even though a large majority of the retailers whom they thus aid are able to come through the depression and pay their bills; this does not mean that the manufacturers will have any preference from the retailers if someone else offers them a longer discount in the future. The plan is merely another one designed to gain the loyalty of the retailer at a certain cost. It may or may not prove to be worth the price.

• • •

Drug Trade Legislation With a new Congress convening in December, the drug trade will be subjected to the tortures of threatened legislation which, if approved, might seriously affect the trade in the conduct of its business. Such matters affecting the drug trade which are likely to receive attention in the forthcoming session are quite completely covered in the article "Congress and the Drug Trade".

Opinion in the drug trade is apt to be sharply divided on many of the measures presented, and there will even be a marked difference of opinion in the manufacturing branch of the trade itself. At the moment there exists among manufacturers a difference of opinion regarding price maintenance legislation, advertising control legislation, amending the Food and Drugs Act, taxation, etc. However this difference of opinion is quite properly divided largely on the basis of the type of manufacturer involved. Like manufacturers are more apt to think alike.

But unless a manufacturer exists merely by virtue of taking advantage of such conditions which any of the proposed pieces of legislations would completely change, he should

attempt to take a broad view of the problem involved. For even, if from first inspection, a particular piece of legislation might appear likely to work a direct hardship on a particular manufacturer, if the measure is certain to produce better conditions in the trade as a whole, it will probably aid every reputable manufacturer to the ultimate disadvantage of those manufacturers without whom the trade would be better off.

• • •

Manufacturers and the Drug Survey

Manufacturers who have been watching the progress of the St. Louis National Drug Store Survey must already be impressed with the preliminary data secured. Frank A. Delgado, business specialist, Department of Commerce, in his recent talk before the N. A. R. D. showed clearly that the drug trade manufacturers will benefit directly through the information being revealed, as well as indirectly through the benefits that should ensue to retailers and wholesalers.

It would be a pity if short-sightedness or mental inertia prevents many of the leading drug trade manufacturers from taking an active and sustained interest in the survey, for it can be made as specifically useful to them and as directly related to their problems of distribution as it can be to the wholesalers and retailers. Our understanding is that the Department and officials in direct charge of this work have invited such cooperation and will welcome suggestions for study and investigation.

The survey is now about half completed, but there is still time for manufacturers to come forward with suggestions and with the kind of interest and support which will make the completed findings throw a searchlight on certain problems of their business.

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Ten Years Ago

From Our Pages, November 1921

The synthetic Organic Chemical Manufacturers' Association of the United States has been formed with Dr. Herty chosen as President. The organization is sub-divided into four sections, dyestuffs, pharmaceuticals, intermediates and fine organic chemicals.

The Treasury Department has handed down a decision in connection with the importation of codeine. The department finds that when produced by the chemical treatment of morphine, codeine is considered a synthetic organic drug.

Among new incorporations was the Essex Drug and Chem. Co., Newark, N. J. Capital $125,000. To manufacture drugs and chemicals.

The New Jersey Pharmaceutical Association has protested to Congress against the provision in the revenue measure to raise the tax of $2.20 a proof gallon on alcohol to $6.40

• • • New and Non-Official • • •

Tammany Hall Tested and Approved ?

An eagle-eyed contributor writes in to tell us that Tammany Hall borrowed or rented the display space occupied by Squibb's huge sign in Times Square to extol the merits of its candidates during the late election campaigning. By some inspired error, underneath the names of the candidates and their qualifications for office was the well-known phrase, "The 'Priceless Ingredient' of every product is the honor and integrity of its maker".

• • •

Especially for Bald-Headed Barbers

Manufacturers of hair tonics who pride themselves upon anticipating a market should shift their production from that of an externally applied product to one that may be taken internally, if further experiments really prove that treatments with pituitary gland extract will really cause hair to grow on a bald head.

• • •

And They Discontinued the Dye Census

The most recent monthly catalogue of United States Public Documents announces that, among other things, the government has published a booklet entitled, "Staple Seats for Water-Closet Bowls", thereby proving that nothing is too minute to escape the attention of the all-powerful, omnipotent government of these United States.

Perhaps they found out that Chic Sale's book on "two-holers" was a best seller.

• • •

Poor Judgement or Ill Fortune ?

A certain crude drug had been coming in without question for years and years, but always in cases. Suddenly it began to come in packed in bags, the Department investigated, and shipments began to be rejected and detained. We don't think we have to point out the moral to this story.

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Buyers Again

Continuing our series which started last month of statements by famous men on the subject of buyers, we offer this one by Elbert Hubbard. According to him, "The typical buyer is a man past middle life, spare, wrinkled, intelligent, cold, passive, non-committal; with eyes like a codfish, polite in contact, but at the same time unresponsive, cool, calm, and as damnably composed as a concrete post or a plaster-of-paris cast; a human petrification with a heart of feld-spar and without charm or the friendly germ, minus bowels, passions or a sense of humor. Happily they never reproduce, and all of them finally go to Hell."

• • •

Ballyhoo

Nobody realized how discredited advertising had become until "Ballyhoo" joined the crusade against exaggeration, insincerity, and other objectionable features of some of the present-day, high-pressure consumer advertising.

• • •

Paging Dr. Seuss

A correspondent has sent us the following story and vouches for its truth. He says the sales manager of a leading insect exterminator burst into his export office and wanted to know why they didn't have an agency in Egypt. It developed that he had just found out that the pyramids were covered with millions of hieroglyphics.

• • •

Good News for Soda Fountains

The announcement of a new meat flavor should bring welcome relief to those who plan new and fancy sundaes and sodas. Now the repertoire may well include a roast beef soda, a pork tenderloin milk shake, and even a planked steak banana split.

Courtesy of Davis & Geck, Inc.

Before Ether

One of the earliest users of anesthetics was Hua Tu (115-205 A. D.) court physician of Chao Tsao, King of Wei. If medication failed, Hua never failed to operate., in all major cases rendering his patients insensible to pain by administration of an anesthetic mixture known as "Ma Fu Shuan."

Ewing Galloway

Congress and the Drug Trade

From top to bottom, the drug trade will be seriously affected if any of the multitude of measures likely to be proposed at the coming session of Congress are approved. Proposed legislation is completely covered in this article.

AS THE opening of the sessions of the 72nd Congress, on December 7, 1931, approaches, it becomes apparent that many matters of peculiar interest to the drug trade and related industries and professions will receive attention from the national legislators.

Foremost in importance among subjects to receive consideration in Congress is tax legislation. Such legislation becomes necessary, in the opinion of Treasury experts, economists and leading members of Congress, by reason of the fact that the United States Treasury gives every indication of having a deficit of two billion dollars for the fiscal year ending June 30, 1932. More revenue is imperatively needed, and in searching for it, revenue seekers turn to such sources as an alcohol tax, taxes on so-called luxuries, including cosmetics and perfumes; a general or selective sales tax, income and corporation taxes, stamp taxes, cigarette tax, excise taxes on various articles, estate and inheritance taxes, and higher postage rates. All of these, except a general sales tax, have yielded heavy returns in times past.

As always in times of emergency, alcohol is considered by revenue experts a legitimate object for taxation. During war times ethyl alcohol has produced many millions of revenue for the government. It is claimed it would yield $25,000 annually. Denatured alcohol has been tax free for many years and is likely to remain so. The World War, however, saw the tax on ethyl alcohol for industrial and scientific purposes increased from $1.10 to $2.20 per gallon. Some years later that increase was wiped out, in one of the republican tax reduction bills.

It is interesting to recall that at that time the alcohol tax reduction proposal was opposed by such prominent trade interests as the American Drug

Manufacturers' Association. The argument used was that stocks of manufactured drugs then on hand had been made with high tax-paid alcohol, and that it would not be practicable to reduce the price of the finished products in proportion to the alcohol tax reduction. It was asserted, in behalf of the A. D. M. A. that the alcohol tax made very little, if any, difference in the price of medicines, such as prescriptions, to the consumer.

Alcohol Taxes

However, other branches of the drug and related trades succeeded in having the war tax increase on alcohol removed. Now that an emergency increase in the alcohol tax in possible, it is expected that most branches of the drug trade will fight it. The A. M. D. A., however, is not in position to do so, it is believed. In fact, it is understood that guiding spirits in that organization are convinced that the association can not consistently oppose an increase in the alcohol tax.

Cosmetic Taxation

"Luxury taxes" are a favorite proposal of many members of Congress. Among objects mentioned as "luxuries" in congressional quarters are cosmetics, perfumes and toiletries, automobiles, radios, gasoline, musical instruments, and so on. Senator Bingham of Connecticut, a close friend of President Hoover, has declared in favor of a cosmetic tax. On the other side of the administration fence, Representative La Guardia of New York has brought forward a complete tax program, which includes a 10 per cent. levy on cosmetics and perfumes, which he estimates will produce $15,000,000 revenue annually, on the basis of total sale of $169,000,000 of cosmetics and perfumes in 1929.

In the past, Uncle Sam has levied on perfumes and toilet preparations. One of the war revenue acts, about fifteen years ago, imposed such a tax, which was repealed after the war. Prior to that, in 1898, there was a Spanish war revenue tax on perfumes and cosmetics. That too was repealed a year or two later. The Spanish war revenue act also provided for taxing certain proprietaries and medicinals. There is also an older precedent for taxing proprietaries during Civil War days. During the World War emergency the proprietary and drug trades were successful in avoiding a special tax on their products. The argument was made that medicines are necessities and therefore should not be taxed.

The same argument is made against proposals for a sales tax. It is for this reason, perhaps, that Treasury Department experts studying the tax and revenues situation have suggested a "selective sales tax". Such a tax, it is said, should exempt such classes of necessary articles as food, fuel, clothing and rents. Presumably, a general sales tax would apply to cosmetics and perfumes, unless a special tax were levied against them. Senator Reed of Pennsylvania, who advocates a general sales tax, would exempt foodstuffs. The drug trade would undoubtedly claim that its products are at least as necessary as food. The 1931 conventions of National Association of Retail Druggists and National Beauty and Barber Supply Association adopted resolutions opposing a sales tax.

Other Taxation

Of special interest to the drug and other trades and industries, it is believed, are some of the proposals concerning modification of the income and corporation taxes. One of these involves, not an increase, but a reduction or repeal of the 12½ per cent. tax on capital gains. Something of the kind is favored by President Hoover and the Treasury, as a temporary measure, to encourage the transfer of property on a large scale in the interest of promoting a business come-back. It is claimed also that such action would tend to discourage the claiming of heavy capital loss deductions in future income tax returns, on account of sales transactions as a result of the depression of values. However, differences of opinion exist among members of Congress on this subject, and the result may be to allow the present tax to remain.

An increase of the cigarette tax seems quite likely, and so do stamp so-called nuisance taxes. An increase of letter postage rate from 2 cents to 3 cents seems practically settled. Treasury experts want taxes imposed on automobiles and radios, and perhaps on gasoline. New taxes on estates, and on gifts made with a view to thwarting the income and inheritance taxes, are reported favored by Garner of Texas, who may be democratic speaker in the next House. Senator Cordell Hull, another democratic tax authority and author of the first national income tax law in 1913, is urging more income taxes and new excise taxes.

Food and Drug Amendments

Amendment of the food and drugs law will receive consideration according to present indications. Of special interest, in this connection, is a proposal of the Food and Drug Administration, regarding provisions of the law concerning drug standards and the U. S. P. The Pharmacopoeia is set up by the law as a book of standards which drug products must meet under the law. On the other hand the law provides, in section 7, that drug products may be exempt from meeting U. S. P. specifications provided they are labeled to show that they are not of U. S. P. quality.

In the opinion of F. D. A. Officials, these provisions of the law are conflicting and confusing. The provision in section 7 is considered, in the words of Dr. P. B. Dunbar, Chief of F. D. A., an unnecessary thing. The only exception from meeting the standards for drugs, in the opinion of Department officials, should be, perhaps, certain drugs intended for manufacturing purposes in the trade, and not for the public.

Walter G. Campbell, Director of Regulatory Work, in 1930 suggested a permit system, under which manu-

facturers would operate, subject to the food and drugs law. Dr. F. J. Cullen, Chief of Drug Control, says that American exporters of medicinal products would benefit if there were set up under the law a system whereby manufacturers could obtain a permit or license to make their products. Exporters shipping such goods into foreign countries as a rule either have to comply with the requirements of such foreign countries' food and drugs laws, or produce certificates from an American governmental source showing products are approved under the laws of the United States. Under a permit or license system, it has been suggested, such a certificate could be obtained.

Objections to Drug Permits

On the other hand, a permittee or licensee would, of course, have to comply with every requirement of the Food and Drug Administration, under penalty of being put out of business. It is thought doubtful that American manufacturers would be willing, as a class, to submit themselves to a permit system, in order to get by more easily under foreign laws requiring American certificates covering drug products, as an alternative to complying with the foreign food and drug law. It does not appear at this time, however, that amendment of the food and drug law so as to provide for a permit system will be pushed before Congress by the Department.

Board of Review

Amendment of the law so as to provide for a Board of Review to consider therapeutic claims on medicinal products was suggested by the United Medicine Manufacturers' Association, at its annual convention. The thought was that such a board would pass finally upon all rulings and decisions by the Food and Drug Administration. Seizure orders would be subject to consideration by such a board. Similar suggestions were submitted to Dr. J. J. Durrett, former Chief of Drug Control, at the last convention of the Proprietary Association. He disapproved, as have officials of the Department disapproved for years past. Some branches of the drug trade oppose suggestions asserting unqualifiedly that establishment of a Board of Review under the food and drugs law would be detrimental since it would make for delay, and since it would result in creation of a record in board proceedings, which might be used by the Department against the trade, in fighting court appeals from board decisions.

Closely allied with proposals to amend the food and drug law is the attempt to secure legislation providing for government regulation or control over general advertising. Senator Copeland of New York, in the last Congress, proposed amendment of the food and drug law providing that false advertising of drugs would constitute misbranding. Senator Smoot of Utah, before that, introduced a bill to amend the food and drug law so as to make unlawful alleged false advertising of foods, drugs and tobacco products. The Smoot proposal did not get very far. The Copeland bill, however, was approved by Secretary of Agriculture Hyde. If Messrs. Copeland and Smoot do not revive their bills somebody else is expected to take up the banner of ad. control.

Advertising Control

In the opinion of some, the U. S. Supreme Court's decision against the Federal Trade Commission in the Marmola case was a severe blow against the Commission's attempt to stop alleged false advertising, through exercise of its powers under the law against unfair methods of competition. However, Commission people profess not to believe that such is the case. If it should turn out to be the case, the sentiment in support of legislation against false advertising may be expected to increase in Congress.

Department of Agriculture officials undoubtedly believe that something should be done about general advertising, which they admit they can not reach under the food and drug law. At present, however, they would rather, according to Dr. Dunbar, have trade organizations take up the question of ad. control, or the elimination of false ads.

Meanwhile, Federal Trade Commissioner W. E. Humphrey approves a suggestion emanating from a New York department store that there should be a trade practice conference of the advertising industry. Mr. Humphrey declares that such conference could do nothing but good. He believes the results that would flow from it would be comparable with those that followed a trade practice conference of periodical publishers held in 1928, which, he says, was of incalculable benefit to the public. The proposed new trade practice conference, Mr. Humphrey suggests, should include newspaper and other publishers, advertising agencies, and other interests. If the advertising situation can be reached through trade practice rules, sometimes called self-government of industry, legislation on the subject of ad. control may not be deemed necessary.

Capper-Kelly Bill

A strong attempt will be made again in the incoming Congress to secure enactment of the Capper-Kelly bill into law. Friends of the bill plan to concentrate their efforts first upon the Senate, where they believe that Senator Couzens of Michigan, Chairman and some other members of the Senate Committee on Interstate Commerce need "education" on the subject.

Both Dr. James M. Doran, Commissioner of Industrial Alcohol, and Col. Amos Woodcock, Director of Prohibition, indicate they know of no new legislative recommendations to be made by the Department to Congress concerning the administration of the laws with the execution of which they are charged. Congress is expected to make the customary appropriations for prohibition enforcement and for the administration of industrial alcohol, although some attempt will

(Continued on page 517)

Wholesalers'

Manufacturers, as usual, attend the N. W. D. A. convention in large numbers to listen to the wholesalers' difficulties, and to find, if possible, a method of cooperation.

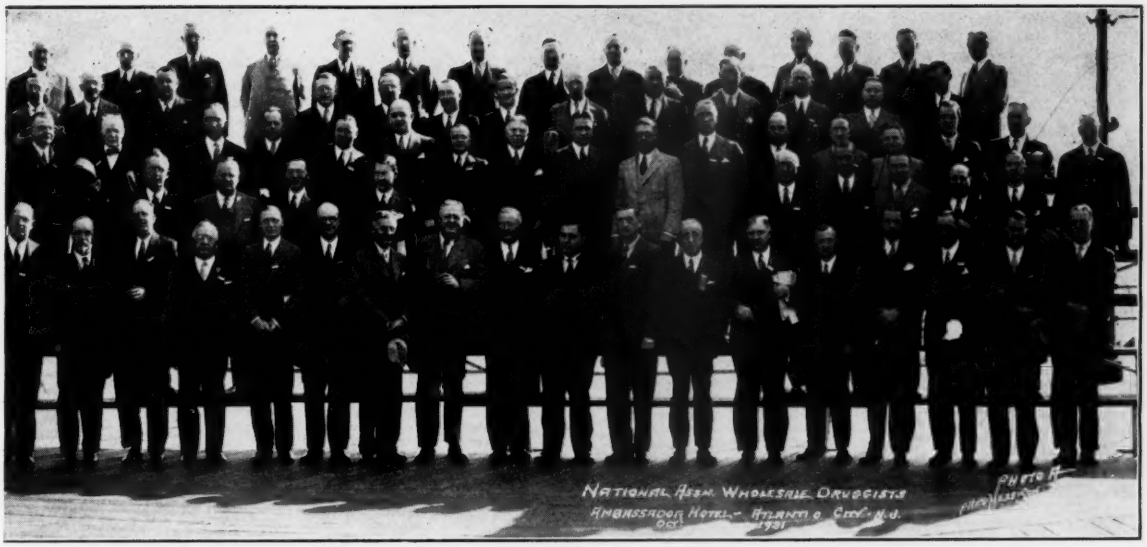
CONTINUING its reputation as the principal meeting ground of drug and toilet goods manufacturers of all types, the annual meeting of the National Wholesale Druggists Association, recently held at Atlantic City, brought forth the heads and lesser lights of many drug manufacturing houses. The executive committee of the American Drug Manufacturers' Association as usual held a meeting during the N. W. D. A. session. Many of the manufacturers were present at several of the wholesalers' meetings, and the meeting of the manufacturers themselves—to discuss distribution—problems was well and actively attended.

Wholesalers supported the meeting of their association in large and conspicuous numbers. Present and active was F. Donald Koster with no less than thirty-two of his associates in McKesson & Robbins, Captain Schieffelin, Carl Meyer, Barrett Moxley, Mahlon Klein, and many others aggressive head of wholesale houses. Outward the wholesalers were harmonious. Roblin H. Davis (Davis Brothers Drug Company, Denver) was finally agreed upon as the new president and unanimously elected.

Interesting at the opening session was the address of President James M. Penland. Excerpts:

"We are informed by the Secretary of Commerce that the drug trade rates second only to public utilities in maintenance of volume and profit for 1930 . . . . . best information obtainable indicates we are holding relative position (for 1931). Drop in sales volume of from 10 to 15 per cent. during each of last two years has forced (wholesalers), for most part, to make radical changes in respective houses.

" . . . large percentage of (toilet goods manufacturers) are selling direct to larger buyers at 33 $^{1}/_{3}$ per cent. from list, and expecting (wholesalers) to supplement this service to thousands of smaller dealers at an advance over their list that yields retailers whom we serve only 25 per cent. Such a policy is decidedly unfair to . . . wholesale distributors, and discount is . . . insufficient (for) retail druggists.



Complaints

New Officers

President

Roblin H. Davis, Davis Bros. Drug Co.

Honorary President

Wm. J. Mooney, Mooney-Mueller-Ward Co.

Vice-presidents

First: H. J. Bowerfind, Fort Wayne Drug Co.
Second: A. D. Berry, McKesson-Berry-Martin Co.
Third: C. A. Loring, Gilman Bros.
Fourth: L. W. Hutchins, Hazeltine & Perkins Drug Co.
Fifth: P. A. Hayes, Justice Drug Co.

"Manufacturing friends can not ignore the fact that one of most important services we render them . . . is extension of credit to the retail trade. As distributors, we are now realizing the cost . . . of this service, and manufacturers are now appreciating . . . its value. A few years ago our credit extension to retail trade represented approximately fifty million dollars per day; at present time it exceeds seventy-five million.

"We must renew the (Capper-Kelly Bill) campaign with utmost vigor when Congress reconvenes. During past year our wholesale members in most sections of the U. S. have worked together in perfect harmony. . . . relations existing between service wholesalers during this trying period of reduced sales have been even more cordial than in recent years . . . If we, as (members) of this association, waiver in our loyalty to its principles, or in our fealty, one to the other, disaster to our industry will inevitably result."

Secretary E. L. Newcomb reported membership of the Association as 229 active wholesalers; 15 active manufacturers, and 381 associate manufacturers. Manufacturers either delinquent or having submitted resignations numbered 58, of whom 25 should be dropped for sufficient reasons. Delinquent active members numbered 13. Net loss in the two classes of membership during the year was 5.

Other pertinent statements in Dr. Newcomb's report are:

" . . . many manufacturers, apparently in an effort to hold up sales, have granted irregular concessions and . . . stimulated predatory price-cutting. Such methods are destructive, . . . may afford temporary relief, but surely bring permanent disaster. . . . number of manufacturers engaged in such practices is small, (but) causes a great amount of discussion.

"There is a very evident trend . . ., particularly among manufacturers of toilet goods, to offer such merchandise for distribution through retailers at gross margin of 25 per cent., and through wholesalers at gross margin of 10 per cent. Such renumeration may have some sound economic basis when it applies to very limited number of fast-selling preparations. When . . . offered . . . on toilet goods lines

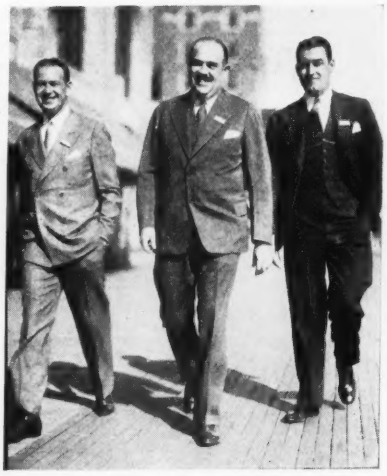
Mr. and Mrs. J. H. Foy

Thurston Merrell, R. W. Blanding, Earle Means (at right)

W. G. Allen, Thurston Merrell

Stanley Heuisler, Harry Gritzan, Robert Gray

Relaxing at the N. W. D. A. Convention

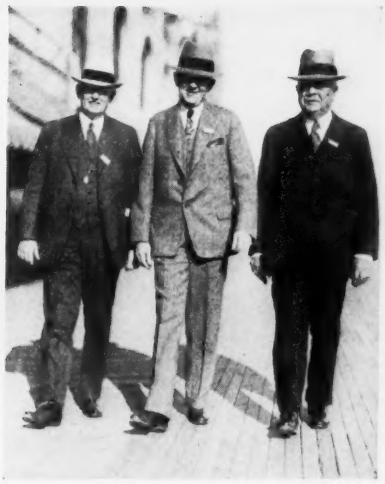


Stanley McGiveran, F. J. Solon, Smith Rairdon

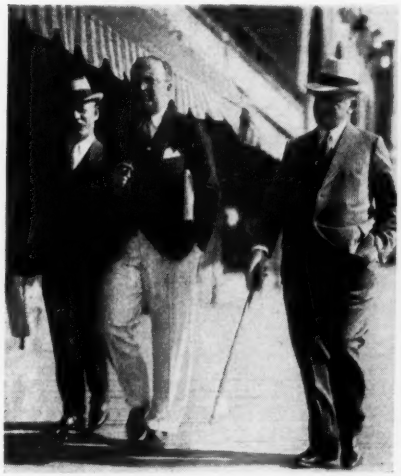
P. E. Anderson, Edward Zink, Ben Greenberg

M. C. Schuehle, Ralph Patch, G. A. Beauchamp

Ralph Dorland, Joseph Hearn, Roscoe Snow, Frank McDonough



George Chandler, Charles Loring, H. L. Waterbury



M. C. Schuehle, James Kerrigan, George Genz

Thomas Farrell, P. E. Magnus

Charles L. Huisking, Turner Currens

F. Sherwood Boyd, A. A. Wassercheid, S. B. Penick, E. Hoffman

Victor Williams, George Simon, Harry Cox, Arthur Rowe

(of) from 200 to 2,000 items, only few of which are fast sellers, it is manifestly unfair. Solution . . . may call for differential discounts (from) manufacturers, not only for type of distributive service purchased, but also for classification of merchandise sold. . . . present method of uniform renumeration for all classes of line regardless of volume in which they sell, is unsound. There may be difficulties in adjusting a schedule of discounts in keeping with cost facts. Difficulties . . . are far less serious then situation . . . created by present uneconomic methods.

"Executive boards of Proprietary Association, American Drug Manufacturers' Association, American Pharmaceutical Manufacturers' Association, American Manufacturers of Toilet Articles could accomplish much for their memberships through conferences with the N. W. D. A. Board of Control."

Legislation Outlook

The status regarding legislation and the outlook for the future trend in legislation was given by General Counsel W. L. Crounse, Excerpts:

"Most important case . . . courts have decided against Food & Drug Administration during past year was National Remedy Company. This decision, it is believed, will put an end to practice of Department . . . of employing multiple seizures . . . to coerce manufacturers into revising their labels to meet views of enforcement officials . . . there is a laudable disposition . . . of Federal courts to protect legitimate industry against arbitrary acts of executive officials wielding temporary authority. . . . courts do not look with favor upon substitution of views of . . . bureaucratic officials for those of reputable physicians who . . . have prescribed formulas brought into question and whose judgment (is) supported by an impressive body of medical opinion.

Price Maintenance

"It is only necessary to consider developments of past eighteen months fully to realize evils of predatory price-cutting as distinguished from other types of price-cutting. It is unanimous opinion of advocates of (Capper-Kelly Bill) that its enactment will go far to relieve wide-spread depression now prevailing.

"The fact that four members of Supreme Court dissented from decision in Indiana (chain store tax) case and that at least two members of the court will give place to successors in the near future, it is obvious that considerable history will be made before this important controversy is finally settled."

Interesting statistical data were given concerning the wholesaler by H. J. Ostlund. Excerpts:

"Taking gross profits before discounts, . . . variation is considerable, range being from 13.65 to 21.84 per cent. of net sales. Gross profit after cash discounts ranged from 11.77 to 22.08 per cent. Operating expenses ranged from 9.41 to 20.39 per cent. Net operating profit in terms of per cent. of sales ranged from loss of 1.5, to gain of 4.2. Total selling expenses ranged from 1.31 to 5.72 per cent. Cost of salesmen was from 1.23 to 5.58 per cent. Handling labor (checking, packing, shipping) ranged from 1.56 to 3.96 per cent. Housing expense was from .96 to 1.43 per cent. General administrative ranged from 3.70 to 8.68 per cent., of which administrative salaries ranged from 2.24 to 5.23 per cent., and total salaries for entire establishments including compensation paid salesmen ranged from 6.15 to 12.50 per cent. Losses from bad debts varied from 0.1 to 1.3 per cent. Stock turnover varied from 2.55 to 6.38 times. Inventories dropped 10 per cent. during 1930.

"Sales produced per dollar of capital invested ranged from $1.32 to $3.83. This figure exclusive of buildings was $1.48 to $3.83 per dollar of capital. Sales in terms of current assets ranged from $1.62 to $4.29."

Distribution Census

Thomas W. Delahanty, Assistant Chief, Chemical Division, Bureau of Foreign and Domestic Commerce, came to the meeting chock full of statistics gleaned from the Census of Distribution. Excerpts:

"Four hundred and twenty-nine drug manufacturing plants producing products valued f. o. b. factory at $124,778,000 make 45 per cent of sales to wholesalers; 33 per cent. to retailers; 18 per cent to consumers, hospitals, physicians.

"One in every six manufacturers of druggists' preparations confine distribution to wholesalers, but three out of six employ wholesalers in varying degrees. One in 12 of these manufacturers . . . set up their own wholesale branches; one in 33 did their own wholesaling exclusively.

"Six hundred and eight plants manufacturing proprietary medicines valued at $133,080,000 f. o. b. factory sell 69 per cent. . . . to wholesalers; 13 per cent. to retailers; 10 per cent. to consumers. One in every three of these manufacturers used wholesalers exclusively; and the other two partially. Approximately half of merchandise distributed in drug trade flowed through strictly wholesale channels.

Free Deals Stressed

"Average drug store received 3.4 per cent. of money spent in retail shops . . . Per capita drug store purchases . . . were $13.75. There is drug store for every 2,125 people. Average (drug store) purchase is 30-35 cents; 4 times this amount in grocery store. Retail drug store has five times as many customers as grocery store . . . Average drug store inventory is 50 per cent. greater than average retail store, and is equivalent to 20 per cent. of annual sales."

Particularly stressed at the meeting was the free deal and the general condition of demoralized price conditions in the retail drug market. The wholesalers and manufacturers were supplied with a recent bulletin on "The Distribution of Free Deals by

(Continued on page 519)

Manufacturers and the St. Louis Survey

While many manufacturers believe that the St. Louis Drug Survey will be of value only to retailers and wholesalers, the value to manufacturers of the information being obtained is particularly striking. More interest on the part of manufacturers will mean more attention to their wants.

ALTHOUGH the National Drug Store Survey being conducted in St. Louis by the Department of Commerce is about half completed, there are many among the manufacturers in the industry who are unaware what type of information is being obtained from the survey, and who are of the opinion that the survey will aid only in a doubtful manner. This doubtful manner comes from the opinion that the survey will only obtain information for the retailers which the retailers may or may not use. And it is the opinion in some directions that even though the retailers do use the information obtained, the use of such information might work to the disadvantage of the manufacturers rather than to their advantage.

But the fact of the matter is that if the incorrect practices uncovered in the drug store by the survey are removed from the retail trade, the retailer will be in much better position actively to sell the merchandise of the manufacturers. A more vigorous retail trade must be of help to the manufacturer, just as weak retail trade must be a handicap to him.

Most manufacturers realize that although their interest in the prescription part of the retail drug store may be exceedingly small, it is this department of the drug store that makes the store worthy of its name. Also the trend of prescriptions in a large measure indicates the trend of medical thought, and such thought undoubtedly influences the sale of all drugs not dispensed on prescriptions. Also the extent of the drive on the part of pharmacists to thwart the interests of manufacturers by attempting to have physicians write prescriptions for U. S. P. and N. F. preparations rather than for manufacturers' specialties would be revealed by subsequent surveys of the prescription business of the drug stores in various centers.

The present status of the business in prescriptions done by various drug stores in St. Louis has been revealed by Frank A. Delgado, business specialist, Department of Commerce, who is in charge of this phase of the National Drug Store Survey.

During the year from May 1, 1930 to April 30, 1931, eleven independent stores and two chain stores under survey filled 84,088 prescriptions. Of these, 54,302, or 64.5 per cent. were new prescriptions; 18,726, 22.2 per cent. were refill prescriptions; and 11,060, or 13.3 per cent. were liquor prescriptions. The 54,302, or 64.5 per cent. new prescriptions were divided into 46,480 non-narcotic, and 7,822 narcotic prescriptions.

It is interesting from a manufacturing viewpoint upon further study of 23,933 of the prescriptions, 61 per cent. were found to be liquid preparations; 17.5 per cent. were capsules; 10 per cent. tablets; 4 per cent. ointments; 1.7 per cent. powders; 1.4 per cent. effervesant salts; 1 per cent. pills.

With reference to the success of the U. S. P. and N. F. prescription agitation, Mr. Delgado states:

"One well-known authority stated about two years ago that there existed a ratio of one specialty for every two official prescriptions ($33^1/_3$ per cent. specialties). I find that only twenty-four per cent. of the approximate 24,000 prescriptions we analyzed were for specialties, twenty-six per cent. were mixed, and fifty per cent. were U. S. P. and N. F. For narcotics the official average was greater, accounting for fifty-eight per cent., specialties only two per cent., and mixed forty per cent."

Prices of official and specialty prescriptions are interesting, particularly in view of the fact that the specialties were charged at higher prices. The average price of the 23,933 prescriptions analyzed in the thirteen stores was ninety-two cents; the lowest price was

eighty-two cents, and the highest $1.10. Of the 20,533 non-narcotic prescriptions in this group, the average price for prescriptions consisting exclusively of specialties was $1.02, or more than twenty-one per cent more than the official prescriptions, the average price of which was only eighty-four cents. The prescriptions consisting of combinations of specialties and official products averaged ninety-three cents or 10 per cent. more than the official preparations.

But a broader aspect of merchandising of drug store products will be available to manufacturers when the survey is completed. The information regarding prescription products is only an example of how all the information obtained can be broken down and thus an answer can be obtained to almost any question. And if the questions are asked of the Department now, the answers will be available sooner.

Definite facts will be made available through the preparation of 100,000 stock cards. Such cards have already been filled out for every item in each of the 14 stores. These cards for each store will show its average inventory, number of purchases, average purchase, sources of supply, discount, number of sales, selling price, value of sales, cost of sales, gross margin, operating expense, net profit and turn over.

A survey by a wholesale drug house indicated that the average capacity of each drug store is about 15,000 different items, as against the 50,000 which are sold through all drug stores. The survey of 11 independent stores in St. Louis shows that the number of items is much less, ranging in number from approximately 2,700 in the smallest inventory to about 9,000 in the largest, while sales ranged from $18,500 to $77,000 yearly.

The value of these cards to manufacturers has already been demonstrated several times. An executive of a large proprietary pill concern was informed as to the manner of division of sales of laxatives—that is liquid, salts, pills, tablets, etc. A toilet preparation house was informed that these cards would enable one to ascertain in what form body deodorants were most popular—that is, liquids, creams or powder.

The cards also show that in the 11 stores surveyed none had less than 62 cards for crude drugs, gums, balsams, spices, waxes and related products, and one store had as many as 154.

It is not necessarily the old-fashioned type of store that carries the largest stock of crude drugs. A modern store at an important traffic center was found to carry the largest number, followed by a fashionable suburban store with 139.

But it has been estimated that the 60,000 stores in this country carry a stock of approximately $1,560,000 of crude drugs and related products.

A wholesale study in charge of J. R. Bromell is being conducted. It will consist of three steps: (1) A detailed study of inventory, sales, operating costs and net profits on the same items as those included in

(*Continued on page 519*)

Editor's Correspondence

(Letters published here must not be construed as necessarily reflecting the editorial policy or opinions of this publication. The editors assume no responsibility for the opinions expressed here, the only requirement being that all communications be signed and written on company stationery.)

Campbell, et al

Editor, Drug Markets,

Sir:

I am glad that every now and then somebody rises to protest against the autocratic powers vested in the Federal Food and Drug Administration. Your editorial "Misunderstood Campbell" meets with our hearty approval and we can only hope that yours will not be a voice crying in the wilderness.

We have suffered from the machinations of Campbell and his administration. Their word is law and, to a small firm like ours, their mandate means sign on the dotted line or join the already crowded bread line.

We have been so impressed with their power, that we honestly believe our only salvation to lie in the hope that an economy measure will lop off the appropriation which supports this type of bureaucracy.

P. S. A.

Catalog Confusion

Editor, Drug Markets,

Sir:

I should like to give voice to a "pet peeve" of mine. Namely the confusion, the lost time and final embarrassment that results from an effort to retain the information sent out by manufacturers and distributors on the assorted sizes of cards, pamphlets and booklets. I truly would like to retain the majority of such information, believing as I do that the Hospital Pharmacist, which is my position, should be in the van of the newer therapeutics, but the matter of filing such congesting literature appears hopeless.

I always feel warmly toward such pieces of literature, on 3 x 5 inch index cards, as is received from Hynson, Westcott & Dunning; the Petrolagar Laboratories; Burroughs, Wellcome Co.; Ernst Bischoff, etc.

H. A. K. W.

Wants a Board

Editor, Drug Markets,

Sir:

Perhaps the sanest and soundest exposition I have ever seen concerning what should be the proper relationship between the manufacturer of proprietary medicines and the Food and Drug Administration appeared in your pages last month. It was "Drug Control and How It Should Be Changed", by Clinton Robb, able counsel of the United Medicine Manufacturers' Association.

I feel so strongly that this is the way out of what now appears like hopeless confusion and unending friction, that I want to advise any who might have missed it to study Mr. Robb's proposals carefully. Some time and effort placed upon carrying out these suggestions will bring us much nearer a satisfactory solution of our present differences with the administration than an indefinite continuation of the running fight now going on.

A little legislation, like a little knowledge, is a dangerous thing and that seems to be the seat of the trouble. A little more regulation, such as Mr. Robb proposes, added to what we already have would, in my opinion, bring the present insufferable situation to a satisfactory and happy end.

B. F. K.

Identification of Rhubarb

Food and Drug Administration seeks to exclude a rhubarb that has been entering the market for the past two years. A difference has been found, but the Pharmacopoeia may contradict itself.

Courtesy "Kraemer's Pharmacognosy"

Rheum Officinale

FOR more than two years there have been coming into the country imports of a rhubarb root that is quite different in many respects than the common round rhubarb root which prior to the two year period was the only one considered official U.S.P. In fact, it is stated, when the first shipment of the somewhat different root came into the country in July 1929, difficulty was experienced in selling it. However, it is said, when the root was finally taken by a dealer and ground into powder, no difficulty was met in selling the powder as U.S.P. rhubarb.

Since the later type of root was much lower in price than the Rhubarb Officinale, it was not long before other dealers were unable to meet competitive conditions in the market for powdered rhubarb. Consequently, dealers generally were forced to deal in the later type of rhubarb root, with the result that this root has been the main one appearing in the market for some time past.

Information that the situation was not unknown to the Food and Drug Administration recently came to Drug Markets. This information, furthermore, indicated that the Department was ready to detain the later type of root and rule against its importation as U.S.P. The information was to the effect that the Department considered this root of the Rhapontic variety which the Pharmacopoeia definitely excludes.

While it is understood that the Food and Drug Administration was at no time ignorant of the fact that the later type of rhubarb was different, it is also stated that the Department was not in a definite position to prove that the later type of root was not U.S.P. This was due to the fact that many types of rhubarb root might be permitted by the U.S.P. monograph on Rhubarb.

The definition appearing at the start of the rhubarb monograph reads:

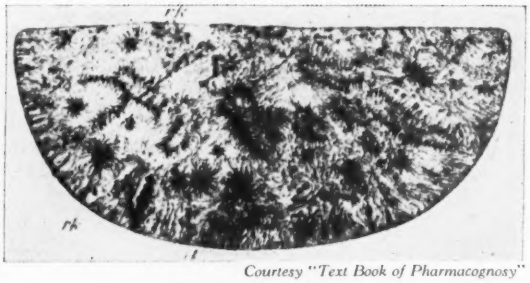
"Rhubarb consists of the dried rhizome and roots of *Rheum officinale* Baillon, or of *Rheum palmatum* Linne (Fam. *Polygonacae*) or other species of *Rheum* grown in China or Thibet, deprived of periderm tissues."

From this definition it seems logical that any type rhubarb would be official so long as it was grown in China or Thibet. But as a matter of fact the Rhapontic Rhubarb is definitely excluded under the test for purity appearing in the monograph, which says:

". . . . . yellowish, prismatic crystals should not form (*rhapontic rhubarb*)."

The Department calls this later type of root, "rhapontic", while some people in the drug trade state definitely that it is not rhapontic. The rhapontic, or garden variety of rhubarb does not resemble the *officinale* as closely as this later type of root, says those in the drug trade. This later root, they admit is quite different in appearance than the *officinale*, being smaller, but it is just another species grown in China or Thibet which is permitted by the

Below are shown the "stellate vascular bundles" which U. S. P. X specifies for rhubarb. At the right is shown Rheum Palmatum, which is included in the U. S. P. definition but not in the description, since, as may be seen, it does not contain "stellate vascular bundles." Is the questionable root really Rheum Palmatum, and does the U. S. P. contradict itself by not allowing for it in the description?



Courtesy "Text Book of Pharmacognosy"

Rheum Officinale

Courtesy "A Modern Herbal"

Rheum Palmatum

U.S.P. monograph, they say. But to get back to the Food and Drug Administration.

Faced with a situation with which they were not entirely familiar, pharmacognosy experts of the Administration went to work to prove or disprove that the root generally coming into the country was permissible under the specifications laid down for rhubarb in the U.S.P. The literature on rhubarb was searched. Every method of testing rhubarb was tried. Finally the ultra-violet ray was applied to rhubarb with the result that the questionable type of rhubarb gave a marked fluorescence under the light, while the rhubarb officinale gave none.

While there was nothing new about this method of testing, it being stated that one of the more prominent drug manufacturers uses it continually and will not accept any rhubarb which displays fluorescence under the light, still it did indicate a difference between the two types of rhubarb. And furthermore, it is said, the difference under the light was so marked and so rapid, even with the whole root, that it formed a basis for a quick test to determine whether or not further inspection was advisable. The test can be made on the whole root, the powder, or the extract. It is said that the results are more striking when the extract is used.

But even though Department officials were able to show this difference between the two roots, they would not be allowed to reject the root as unfit for importation as a U.S.P. product on this one test alone, for the reason that this method of testing is not official in the U.S.P. and therefore would not hold water in court, it is said. Therefore, it became necessary for Administration experts to search for some other difference between the two types of root.

Finally, it is said, the two roots were compared in accordance with the paragraph of the U.S.P. monograph entitled, "Description and physical properties". In this paragraph was found the following:

". . . . fracture uneven, showing stellate vascular bundles."

This part of the description the questionable type of root does not meet in the opinion of Administration experts. This is indicated by a close examination of the fracture of the two roots. The irregular star-like lines of the Rhubarb officinale do not appear in the questionable type of root, which shows an absolute regularity of lines radiating from the center. It is said that this is one difference upon which the Administration can "hang its hat" in ruling that the later type of root is not U.S.P. and should be excluded.

Just how drastic the Food and Drug Administration is going to be regarding future imports of rhubarb root has not been indicated at the moment. However, it is perfectly probable that the decision will be made to exclude all other rhubarb root than the common round, or officinale, and thus place the market in the position it was in prior to the entry of the later type of rhubarb in July, 1929.

(*Continued on page 519*)

Labeling Glandular Remedies

Glandular products today occupy a prominent place among medicinal agents. The views of the Drug Control Unit have never before been presented. In this interview Drug Control Chief Cullen gives his views of proper label statements under the law.

Dr. Frederick J. Cullen

FOLLOWING announcement that a certain practitioner has been driven off the air by the Federal Radio Commission, and forced over into Mexico to carry on his broadcasting propaganda in the interest of the treatment of sick humans with the use of healthy goat glands, it develops that the Food and Drug Administration has a considerable interest in glandular preparations. It seems that work along this line has been going on for some time, in the pharmacological laboratory of Drug Control. This work has been expanded somewhat during the current fiscal year, as a result of increased appropriations for enforcement of the food and drugs law. Some of this work is along the line of bio-assay of glandular drug preparations. In other instances chemical tests are being carried on, with so-called straight gland preparations and with preparations composed of combinations of gland products and other ingredients.

Based in part upon the results of this work, and partly upon the concensus of medical opinion, Dr. Frederick J. Cullen, Chief of Drug Control, has given expression to some observations, for the benefit of Drug Markets, concerning properties, uses therapeutic claims, and labels, with reference to glandular preparations. These preparations were marketed for medicinal purposes before the dawn of the "vitamin age." But in recent years, the vitamins have outstripped them in use by the medical profession and the laiety.

To begin with, Dr. Cullen announced, that "not many gland substances, administered by the mouth, have any value. Certain glands, "he continued," used in the form of extracts, and applied with the hypodermic needle, produce some results. To get results by administration via the mouth, one must use doses ten times as large as the hypodermic injection of those same products. And even then, results attained through mouth administration are likely to be irregular weak and uncertain; in fact, the reaction is much less."

The above appears to settle, from the standpoint of the Food and Drug Administration, the proposition that glandular preparations of many kinds can not properly be labeled for mouth dosage, on the ground that the public may be deceived by such a label.

Dr. Cullen made it perfectly clear, however, that thyroid preparations represent one exception to the general rule against mouth administration. Thyroid preparations are on the market in the form of extract, and in the form of the dessicated gland substance.

"Thyroid is one extract," said Dr. Cullen, "that can be given by mouth, with good result, without administering ten times the amount necessary for hypodermic dosage. It is used sometimes to reduce the weight of a patient and sometimes to correct certain conditions with reference to his thyroid gland."

Dr. Cullen went on to say, however, that thyroid extract is a drug that should not be taken freely by anybody, or except on the advice of a physician. That was the position, substantially, of the Federal Trade Commission, with regard to Marmola prescription tablets, which contain thyroid products. Most of the complaint about Marmola related to the general advertising of that product, and not to its label. The Food and Drug Administration has nothing to do with general advertising, however. The Administration is understood to have cooperated with the Commission concerning numerous drug preparations falsely advertised, as alleged.

Thyroid preparation manufacturers should not get the idea othat their labels are exempt frm scrutiny by Drug Control. Dr. Cullen stated that in the laboratories of his division tests of thyroid preparations are

being run. One purpose of these tests is to see whether the preparations are of the strength claimed on their labels.

It is not believed the Administration would approve label claims on thyroid preparations to the effect that they constitute a cure for obesity or a remedy for diseases of the thyroid gland, for the reason that there are certain forms of obesity and certain thyroid diseases that would not be remedied, but, on the other hand, where the health of the patient might be injured from using thyroid preparations, according to the Chief of Drug Control.

Liver and Insulin

Liver extract is another glandular product that may properly be administered by the mouth, it is said. This product, useful in treatment of pernicious anemia, should be of proper strength and the proper dosage should be specified, in order for its label to get by the Department experts.

Insulin, also a gland product (of the pancreas), on the other hand, is useless in treatment of diabetes, unless administered hypodermically, says Dr. Cullen. He therefore frowns upon labels for insulin preparations intended for mouth administration.

Pancreatin, another gland product, will assist in digesting certain types of food, if properly administered. "Pancreatin preparations," warns Dr. Cullen, "are very unstable in many instances, and deteriorate very rapidly. After a short time the pancreatin may disappear entirely, from chemical changes or degeneration. However, some pancreatin preparations can be made stable. That is a manufacturing problem. A stable pancreatin preparation may be labeled for aiding in the digestion of certain types of foods, if the preparation is of proper strength and proper dosage is recommended."

Epinephrine Statements

It is proper, Dr. Cullen said, to label adrenalin or epinephrine preparations for "stimulation of the circulation," if they are of good quality. This class of preparation is administered hypodermically. Adrenolin acts by contracting the blood vessels and thus tend to relieve the heart of a portion of its load.

Pituitary extract is another important recognized glandular product that bears the stamp of official approval, provided strength and dosage are proper. This product, as it has come to the attention of Drug Control, is usually put up in ampules for hypodermic use by doctors and in hospitals. It is prepared in two forms, for use, respectively, in obstetrical cases and for surgical purposes to stimulate the action of the bowels following an operation.

Pituitary, adrenalin and thyroid extracts are listed in the U. S. P. It is reported that certain other glandular preparations have been suggested to the Pharmacopoeial Revision Committee for inclusion in the new Pharmacopoeia. From general knowledge of the science of gland medicine, however, Department of Agriculture officials doubt that additional gland preparations are likely to be officially listed in the near future.

Mostly Ethical

Dr. Cullen and drug trade representatives agree that most glandular preparations on the market belong to the class of so-called ethical pharmaceutical preparations; that there are not a great many glandular preparations bearing proprietary or trade names. Many of the first mentioned class of preparations bear labels merely showing the name of the gland substance or extract, together with a statement of the strength of the tablets or the dosage recommended. Such preparations, according to Dr. Cullen, must be labeled correctly as to strength and dosage. Any therapeutic claims made on their labels must also be accurate and in such form as not to deceive the general public, as indicated above. Some of the powerful gland products are not sold over the counter, but are used chiefly for filling physicians' prescriptions, or for dispensation by physicians. When marketed in these latter ways, it is not deemed necessary, as a general rule, that their labels bear therapeutic claims.

Concerning Rejuvenation

One class of alleged glandular preparations which Drug Control has been after for a long time is represented by so-called "rejuvenators" of men or women. These are largely mislabeled, according to department officials, and many of them have been put out of business either by the Food and Drug Administration, or by the Postoffice Department through the use of the fraud order. Some have also been attacked, through their general advertising, by the Federal Trade Commission. Many such preparations are intended for administration by the mouth, which Dr. Cullen has condemned, as a rule.

In the case of some of these preparations, scientific experiments are said to indicate that administration of, literally, pounds of the active ingredient is necessary to obtain even a very temporary, slight, reaction. Even whole glands, transplanted, have no effect, according to Dr. Cullen, except when such transplantation occurs between two individuals of the same species. In other words, it must be from "like to like." And even when it is a "like to like" transplantation, he says, the reaction is only temporary, until the transplanted gland sloughs away. If that is so, how much less reaction may be expected from other methods of treatment with glandular preparations.

Glandular preparations containing spleenic, ovarian, lutine, and testicular substances or extracts, among others, have come to the attention of Drug Control. The latter has been looking over as many glandular preparations as practicable, said Dr. Cullen. In fact,

(*Continued on page 517*)

Gluconic Acid and Gluconcates

Both in its own right, and particularly as a long wanted vehicle for the introduction of calcium into the system, Gluconic acid---a new-comer in commercial chemistry---promises to develop extensively.

WITHIN recent months, into the field of chemistry, and particularly of medicine, has been injected a new organic acid which promises to carve out a definite and rather large place for itself, partly at the expense of other products, but also partly in its own right. Gluconic acid—the new-comer—is an oxidation product of glucose or grape sugar, which has been known as a chemical curiosity at a prohibitive cost for perhaps half a century. Quite recently, however, practical methods have been evolved for its commercial production. And since it is made from a raw material unlimited in supply, and is offered at prices to compete with other organic acids, those who are investigating its uses are building on a firm basis, since greater use will most likely result in still lower costs.

Gluconic acid may be prepared commercially from glucose by an oxidizing fermentation, a chemical oxidation, or possibly an electrolytic oxidation. The Department of Agriculture has described an effective method for its preparation, but higher yields are believed to have resulted from the research of chemical firms. Preparation of the product is not as simple as it sounds, and some drug manufacturers who formerly prepared the product for their own use, have been happy to abandon the manufacture and buy from another.

Gluconic acid has the formula $C_6H_{12}O_7$. It is a syrup in form, the consistency of which depends upon the concentration. Upon heating, such as takes place when it is concentrated by evaporation, the aqueous solution is partly converted to its lactone, a crystalline substance having a melting point 130° to 135° C. Characteristic derivatives are the phenylhydrazid, melting point 200° C., and anilid, melting point 171°C. The acid is optically active—dextrorotatory—this property varying in accordance with the percentage of lactone present in the acid. Gluconic acid is marketed in the form of a 65 per cent. solution. This solidifies in cold weather, but may be liquified by heating. By suitable means the free acid may be isolated as a white crystalline solid.

But, at the moment, the interest surrounding the product from the point of view of the drug manufacturing industry is largely concerned with the salts of the acid. And one of these salts—calcium gluconate—is now commanding quite widespread attention. While calcium therapy has long been known and quite well understood, this new calcium salt bids fair to give a marked impetus to the use of calcium in medicine.

With the marked appreciation of the value of the vitamins, and particularly of the property of vitamin D in fixing calcium in the bones, and of vitamin C in fixing calcium in the teeth, there must necessarily follow a fuller appreciation of the sources of the calcium that these vitamins are supposed to fix. It is well within the realm of possibility that the average layman will within a comparatively short time develop this appreciation, and will be anxiously seeking preparation which will give him the calcium he requires. Under the influence of advertising by drug manufacturers, the professions and the public could be quickly educated to the fact that without the calcium being introduced into the system, much of the effect of certain vitamins is lost.

Calcium has long been administered for a number of conditions in the form of calcium chloride. This salt has been far from satisfactory, however, due to the fact that when administered orally it is not very palatable, and when administered hypodermically it is irritating and produces a marked reaction. Calcium gluconate, however, is tasteless when administered orally, and produces only a minimum of reaction when administered intravenously. Also, since calcium gluconate is not irritating to the tissues,

it can be injected intramuscularly, and accidental leakage out of the vein during an injection is harmless.

Thus calcium gluconate promises to replace calcium chloride in the many indications of calcium therapy such as calcium deficiency in various parts of the body; pregnancy and lactation: gonococcus and post-gonococcus infections; gynecological conditions; pelvic inflammatory conditions; as well as many other conditions.

Calcium acts in several ways on the body to produce its effects. It reduces cell permeability and transudation phenomena; it regulates neuro-muscular excitability; it increases phagocytosis, thus favoring natural processes of defense of the body against inflammation.

But gluconic acid and its salts have still wider uses that promise further expansion in its use than the mere field of calcium therapy. Calcium gluconate itself, as well as magnesium gluconate has a peculiar sponge-like crystalline structure which is useful in homegenizing pastes. A tooth paste, for example, containing calcium or magnesium gluconate is said to have very satisfactory polishing properties, and shows no tendency to separate on standing. The peculiar softness of the crystalline structure of these salts is said to be such as to prevent abrasion. Ammonium gluconate is useful in stabilizing emulsions. Other salts, such as aluminum, mercury, iron, zinc, etc., possess properties of interest.

While the esters of gluconic acid have been found quite unstable and therefore their field of usefulness is limited, glucono-amide, glucono-para-phenetide, and glucono-anilide suggest that the glucono radical may well replace the acetyl in many compounds.

But the acid itself presents many possibilities in various ways. Pure gluconic acid can readily be converted into crystalline anhydrides, known as delta and gamma lactones. They are not acid, but have a mild sweet, taste. They are stable in storage, and may readily be converted into gluconic acid by merely dissolving in hot water. They are freely soluble in cold water also, but react with it rather slowly. This delayed acidification made possible by use of the lactones makes them ideal constituents of leavening agents, the liberation of the gas depending upon the rate of conversion of the lactone to gluconic acid, which is quite readily controlled by the temperature applied. Thus if the lactones are substituted for the fruit acids in ordinary baking powders, the evolution of carbon dioxide is more uniform. Apparently no laxative action or injurious residue results, as the gluconic compounds are reported to be completely oxidized in the human body, even by diabetics, and thus act as a food.

The lactones of gluconic acid offer many possibilities in the manufacture of pectin jellies. . With glucono-lactones it is possible to prepare a dry powder which need only be dissolved in water and heated to jell perfectly. Here again the property of delayed acidification is a most important factor.

Quite a field from the preparation of medicines and foods, gluconic acid has been found useful in the vegetable tanning of leather, as a laundry sour, as a metal polish. It is effective in dissolving metallic oxides, because all its normal salts are soluble even in cold water. Their solubility is considerably increased by rising temperature, and upon cooling they have a tendency to form super-saturated solutions. Gluconic acid is mild in action, yet stronger than acetic or lactic acid.

Specifications for the medicinal grade of calcium gluconate are best given by quoting "New and Non-official Remedies:

Calcium Gluconate.—Normal Calcium Gluconate—Calcium Salt of hexapentol-(2, 3, 4, 5, 6)-Acid-(1). $[HOCH_2CH(OH)CH(OH)CH(OH)CH(OH)(COO]_2 CaH_2O$. It contains calcium equivalent to not less than 12.4 nor more than 12.8 per cent. of calcium oxide.

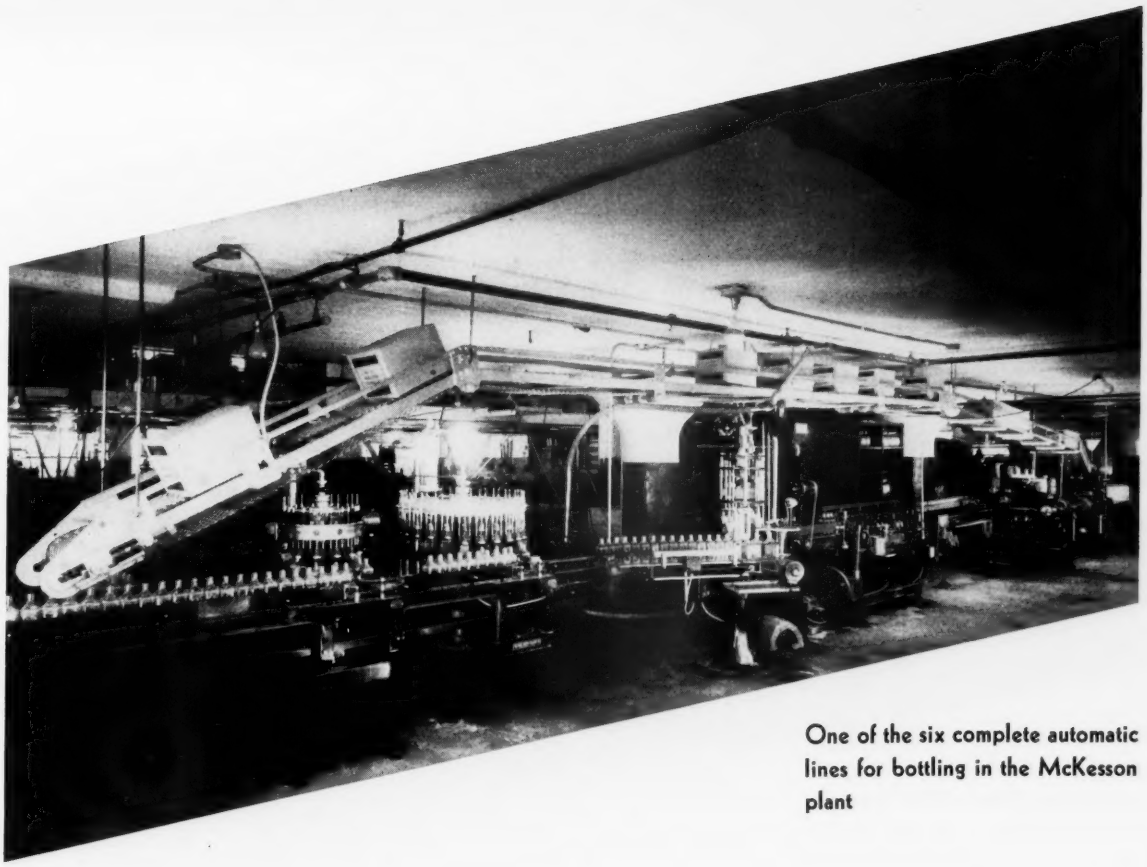
Actions and Uses.—Calcium gluconate is used to obtain the therapeutic effects of calcium. It is more palatable than calcium chloride for oral administration and for hypodermic or intramuscular use is nonirritant.

Dosage.—Orally, for adults, 5 Gm. (75 grains) three times a day; for children, 2 Gm. (30 grains) three times a day. Intramuscularly or intravenously, for adults, 1 Gm. administered every day, on alternate days or every third day; for children, 0.2 to 0.5 Gm. administered every day, on alternate days or every third day.

Calcium gluconate occurs as white, odorless and tasteless granules, consisting of fine needle crystals. It crystallizes from an aqueous solution with one molecule of water and has the formula $(C_6H_{11}O_7)_2Ca.H_2O$. It loses completely its water of crystallization only after prolonged drying in a high vacuum at 105 C. A 3 per cent. aqueous solution is slightly dextrorotatory. When heated it swells up, and during carbonization emits an odor of burning filter paper. It is soluble in cold water (1 in 30); soluble in boiling water (1 in 4 to 5), crystallizing on cooling. It possesses distinct tendencies to form supersaturated solutions. It is insoluble in alcohol and fat solvents. Cold, saturated aqueous solutions are neutral to litmus paper. Addition of diluted sulphuric acid to a 3 per cent. aqueous solution causes only incomplete precipitation of the calcium as calcium sulphate, even on heating.

Dissolve 1 Gm. of calcium gluconate in 10 cc. of water; add 2 cc. of ammonia water and 5 cc. of ammonium oxalate: an immediate precipitation, which readily deposits on heating, results (calcium). To 1 cc. of a 10 per cent. aqueous solution add 1 drop of ferric chloride: a canary yellow color is obtained

(Continued on page 456)



One of the six complete automatic lines for bottling in the McKesson plant

Modern Drug Production

IN A recent visit to the plant, of McKesson & Robbins, in Bridgeport, Conn., we were shown, under the guidance of Howard F. Brownell, production superintendent, the packaging departments which are a revelation of modern production engineering. Immediately striking is a remarkable smoothness of operation,—a noticeable lack of disorder,—that evidences careful planning, regulation and management. The output of this plant. Mr. Brownell assured us, is enormous and includes a complete line of pharmaceuticals and toilet preparations packaged in a wide variety of sizes and shapes of bottles, jars and tins, all of which presents a man sized problem.

Production and naturally purchases of raw materials are synchronized with the schedule of distribution and sales demand, Mr. Brownell explained. Raw materials and supplies are brought in as required for immediate needs, always of course, with the necessary margin of safety. Bottles, for instance, are delivered by the glass manufacturers in accordance with the rate of demand and schedule of production on each particular size.

The handling of the bottles within the plant was carefully explained by Mr. Brownell. The bottles are sterilized in the glass factory, he explained, and they are received for immediate use and come in reshipping cartons, they do not get a chance to gather

any factory dust or grime from exposure to the elements. Such foreign matter as chips of glass, bits of fiber from cartons, etc., are very effectively removed, said Mr. Brownell, by means of an automatic machine which cleans the bottles by means of compressed air. This is the first machine shown in the illustration. As the bottles are removed from the shipping cartons, they are placed on a conveyor feeding this bottle cleaning machine. The bottles go into the machine which rotates, each bottle being automatically placed on an individual carrier. This carrier raises the bottle to a blowing tube so that the tube enters the bottle. During the travel of the bottle around the machine, the bottle receives a blast of air, and then after a short interval of time it receives another blast of air. Thus each bottle is given two blowings under eighty pounds pressure. Instantly, explained Mr. Brownell, any foreign matter that may be in the bottle is blown out, and a cleverly designed exhaust system collects it and deposits it in a cloth bag, much the same as a vacuum cleaner.

Six Liquid Lines

At present in the McKesson & Robbins plant, there are six complete automatic lines for bottling liquids such as the one shown in illustration. These lines are naturally of the continuous operation or flow system arrangement, which minimizes handling labor costs and also facilitate operation.

As the bottles emerge from the cleaning machine, they travel continuously into the filling machine without manual assistance. Here again the equipment is of the rotating type and operates under the vacuum method. Defective, imperfect bottles can not fill and there is no wastage of material. The bottles are filled as they travel around the machine and again discharge automatically upon a narrow belt conveyor. This brings them to an automatic capper into which they are handled automatically. Traveling on down this same belt, the bottles likewise go into the labeler, then directly into a cartoner, and then onto a packing conveyor, where they are put in shipping cartons. These cartons are brought by means of an overhead conveyor from the beginning of the packaging line to this point.

The particular equipment shown here is used for a square ribbed bottle of 16 oz. capacity and is run at a speed of seventy-two units a minute. The entire operations of cleaning, filling, capping, labeling, cartoning (all except packing) requires the attention of only a few operators after the bottles are put on the feed conveyor to the cleaning machine

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Photochemistry, by Edward Kremers, 20 pages, Bulletin of the University of Wisconsin, Serial No. 1732, General Series No. 1506, Madison, Wisconsin.

The present bulletin is the introduction to the general subject and like all of Dr. Kremers' work deserves careful attention.

Industry's Books

Allergy, by Warren T. Vaughan, M. D., The C. V. Mosby Co., St. Louis, Mo., 359 pages.

A comprehensive discussion of the most recent developments in the diagnosis and treatment of the allergic diseases and diseases associated with allergy, particularly hay fever, asthma, hives, eczema, migraine, epilepsy, allergic indigestion and food idiosyncrasy.

Living the Liver Diet, by Elmer A. Miner, M. D., 106 pages, The C. V. Mosby Co., St. Louis, Mo., $1.50 net.

The intimate details of the experiences of a patient who recovered from pernicious anemia. Since the patient is also a physician, he brings a well-rounded point of view to his discussion.

Glycerol and the Glycols, by James W. Lawrie, 447 pages, The Chemical Catalog Company, Inc., New York, $7.25 net.

The important facts related to glycerol and the glycols have been brought together here so that producers and users, especially those engaged in research work towards new compounds, may have a complete reference book giving in detail physical and chemical data regarding production, manufacture, qualitative and quantitative tests and other facts. The tables of commercial statistics, soap making properties, etc., will be found of special interest.

The Merchandising of Drug Products, by Paul C. Olsen, Ph.D., 259 pages, D. Appleton & Company, New York, $2.50 net.

A plea for creative merchandising in the drug trade through an analysis of the outstanding causes of success and failure in the present day merchandising. Part 1 deals with problems of manufacturers and wholesalers and Part 2 with problems of retail distribution. Quantity discounts, free goods, price maintenance, co-operative buying, and the wholesaler's position are some of the chapter headings in Part 1.

The Insect Menace, by L. O. Howard, 347 pages, The Century Co., New York, $3.50 net.

The reason behind the warfare against insects, written in an interesting and personal style to attract the general public and to give such a public an appreciation of a very real menace to humanity. A Scientific Book Club Selection.

The Biochemistry of the Amino Acids, by H. H. Mitchell and T. S. Hamilton, 619 pages, The Chemical Catalog Company, Inc., New York, $7.25 net.

The present status of the subject of the biochemistry of the amino acids and their role in animal metabolism. Discusses properties; determination; liberation in the intestinal tract; general amino acid metabolism; special phases of the metabolism; dynamic effect; the endogenous catabolism; and the nutritive values of proteins and protein values of foods in nutrition.

Advertising and Its Mechanical Production, by Carl Richard Greer, 474 pages, Thomas Y. Crowell Co., New York, $5.00 net.

An interestingly written and illustrated work of importance to the advertiser. The principles underlying all advertising, their application to business problems, and the mechanical production of advertisements are completely explained.

World Survey of the Zinc Industry, by W. R. Ingalls, 128 pages, Mining and Metallurgical Society of America, New York.

A complete survey of American and foreign zinc resources, together with statements of past production, present developments, and future outlook. Chock full of statistics and statements of fact, together with interesting interpretations by the author.

The Psyllium Trade

By Stephenson White*

The trade in this popular item is discussed by a Department of Commerce official in a special article which reveals import statistics not heretofore available.

THE wave of popularity that has swept the laxative *Plantago psyllium* seed into a prominent position among the crude drug imports of the United States continues unabated in 1931. It has resulted in increased yields abroad, expanded importations and offerings on the domestic market of other mucilaginous seeds. The French psyllium output of the current season is reported by French dealers to have been about 50 per cent. greater than that of last year. In British India plantago and other seeds appear to have approached in estimated aggregate yield the output of France. Total American imports of *Plantago psyllium* and other seeds during the first eight months of this year amounted to 2,286,000 pounds, as compared with about 1,000,000 pounds for the corresponding period of 1930. However, in the months of October and November of 1930 the United States imported over 1,140,000 pounds and import statistics subsequent to August, 1931, are not yet available. The highest monthly imports this year were recorded in May and July when quantities totaled 404,000 and 610,200 pounds, respectively. Plantago seeds other than *Plantago psyllium* imported in 1931 were *Plantago loeflingii*, known also as *Plantago ovata* or *ispaghula*, from British India; *Plantago lanceolata* from Germany and two seeds of the Labiate group, *Lallemantia royaleana* and an Ocimum (partially identified) also from British India. Official statistics do not indicate separately the amount of each of the above species imported.

Countries of Origin

United States imports of *Plantago psyllium* and related mucilaginous seeds by countries of origin during the eight-month period ended August, 1931, were as follows: France, 1,090,700 pounds valued at $268,100; British India, 961,000 pounds valued at $54,000; Germany, 171,000 pounds valued at $7,200; Spain, 46,100 pounds valued at $17,000; Belgium, 16,000 pounds valued at $700; United Kingdom, 600 pounds valued at $100; and Cuba, 600 pounds valued at $300. On the basis of these figures import values per pound from the three leading countries averaged approximately: France, $.245; British India, $.056; and Germany, $.04.

France at present is the source of over 95 per cent. of the known world production of *Plantago psyllium* seed which is characterized by its dark lustrous shade. It is procured in France in a wild state and is cultivated extensively in the department of Vaucluse and the Bouches-du-Rhone. Crops are harvested and available for export in August, shipments usually being made through Marseille. The yield for 1931 was estimated in the French trade to approximate 4,400,000 pounds, as compared with 2,650,000 pounds in 1930.

Other Seeds in British India

The only species of Plantago seed known to be growing in British India in appreciable quantities is *Plantago loeflingii*, otherwise called *Plantago ovata* or *ispaghula* or blond Indian plantago seed. Two other mucilaginous seeds said to be obtainable in that country are *Lallemantia royelana* and an *Ocimum*, not yet fully identified botanically. Examination of the seeds of *Plantago loeflingii* revealed the following: The seeds were generally light in color; their surface was glossy; they were deeply excavated and possessed an oval area on the outer surface of a light brown color. Seeds of the *Lallemantia royleana* are narrowly oblong and brownish black in color and possess a dull

*Chemical Division, Bureau of Foreign and Domestic Commerce

surface. The seed reported to be an *Ocimum* has a dark color, appears to be of a rounder shape than psyllium and to have a high mucilaginous content. It is said to be used in India chiefly as a base for a hot weather drink.

The botanicals in British India yielding the seeds described above are reported by Indian dealers to occur as extensive wild growths, the most important regions being in the vicinity of Gujarat, Bombay Presidency, and in the United Provinces. The extent of cultivation has not been determined. The output in 1931 was unofficially reported at approximately 4,000,000 pounds. The Gujarat yield is said to be exported principally from Bombay, while the United Provinces output is shipped largely from Calcutta. The large number of individuals engaged in the trade make it difficult to secure accurate production estimates and at times figures submitted have been grossly exaggerated. There is no general standardization of these seeds in India as regards size, color, cleanliness, and foreign matter.

Plantago Lanceolata from Germany

Germany's 171,000 pound supply of mucilaginous seed to the United States during the period under review ranks that country in third importance. Supplies of the seed imported from Germany were determined to be of the botanical *Plantago lanceolata*. The seeds are described as deeply excavated, generally light brown in color of a glossy appearance, and possessed a longitudinal yellowish brown streak on the outer surface. Its mucilage content is reported to be less than half that of *Plantago psyllium* or *Plantago loeflingii*. The plant is said to occur in many sections as a weed.

Spanish Psyllium Yield Small

Plantago psyllium finds a considerable wild growth in Spain throughout about three-quarters of the country south and east of Madrid. It grows most extensively in the provinces of Seville and Cadiz. It is also obtained in the Balearic islands, especially Mallorca. The yield has exceeded 300,000 pounds in normal years, but the annual output since 1929 has been smaller than that. Exports are said to be chiefly destined to the United States and France. Climatic and soil conditions are conducive to the growth of psyllium seed in Spain and the relatively small yields heretofore are attributed to a lack of production efforts.

Plantago Psyllium in Italy

Psyllium seed also grows wild in Italy, cultivation so far having been mostly experimental. The plant occurs commonly in the sandy coastal regions of Romagna and the Veneto along the Adriatic, around Ferrara, Ravenna and Padova, and on the western coast in the vicinity of livorno. Seeds are gathered from June to July. Exports of psyllium seed in 1930, declared at Livorno, destined to the United States, amounted to 15,400 pounds.

No Domestic Production

Psyllium may be found in a wild state in Syria, in the Lebanon mountains and the region of Damascus. It is exploited to a limited extent for local use as a food and is prescribed by native medicine men. Grocers and native druggists hire peasants to gather the seeds. Leaves of the plantain are also used there for medicinal purposes. No exports have been reported.

Experimental cultivation has been successfully undertaken in Greece. More extensive plantings were made in March and April of 1931, but results are not as yet apparent.

No commercial production of *Plantago psyllium* seed in the United States has been reported nor does present knowledge or experience presage definitely the possibilities of large scale domestic cultivation. Experiments to determine the feasibility of its growth in this country will undoubtedly be undertaken and the search continued for other mucilaginous seeds of comparable or greater efficacy.

Gluconic Acid

(*Continued from page 452*)

(a-oxyacid). To 5 cc. of a 10 per cent. aqueous solution add 0.65 cc. of glacial acetic acid and 1 cc. of phenylhydrazine (fresh) and heat the mixture on a steam bath for thirty minutes; allow to cool, and scratch the sides of the tube for a few seconds with a glass rod: a crystalline deposit of gluconic-acid-phenyl-hydrazide is formed. Filter the crystalline mass, and purify by dissolving in 10 to 15 cc. of hot water; add a small amount of charcoal and filter; allow the filtrate to cool: pure white crystals melting with decomposition at 200 to 202° C. are obtained.

To 5 cc. of a 3 per cent. aqueous solution of calcium gluconate add 5 drops of nitric acid and 1 cc. of silver nitrate: not more than a slight opalescence appears (chloride). To 5 cc. of a 3 per cent. aqueous solution add 2 cc. of alkaline cupric tartrate solution and boil no reduction takes place (glucose). To 5 cc. of a 3 per cent. aqueous solution add 5 drops of diluted hydrochloric acid and 1 cc. of barium chloride solution: no turbidity appears (sulphate). An aqueous solution meets the requirements of the U. S. P. tests for the absence of heavy metals (see U. S. P. X. p. 439).

Transfer about 0.2 Gm. of calcium gluconate, accurately weighed, to a large platinum crucible and moisten with 3 drops of olive oil; heat slowly and after carbonization heat the residue at red heat in an electric muffle furnace until it is completely white; bring the residue to constant weight: the residue represents not less than 12.4 nor more than 12.8 per cent. of calcium oxide.

Deterioration By Light Through Glass

The continuation of Dr. Arny's work on this interesting subject is at last producing definite results. A real knowledge of just how protective various colored glasses are will be a real contribution to the industry.

THE work being carried on by Dr. H. V. Arny on the prevention of deterioration by the use of colored glass containers has progressed to the point at which Dr. Arny and his co-workers, A. Taub and A. Steinberg, have reported many of the results of their experiments to the American Pharmaceutical Association, which information was published in the Journal of the A. Ph. A.

Three different sets of conditions were used, and each of the products in question were exposed under all sets of conditions. The first of these is "direct daylight," which means that the products, contained in stoppered pyrex tubes (to protect against alkalinity of glass), were placed in bottles and placed behind a sheet of window glass, and placed in the direct sunlight on the roof.

The second condition called "diffused light" means that the bottles were placed in a bookcase provided with glass doors and located in the office of Dr. Arny.

The third condition means that the bottles are kept in a dark room away from all light. These samples served as controls.

Of the four hundred or more light-sensitive chemicals and pharmaceuticals listed in the U. S. P. and N. F., thirty-five were given careful study. These thirty-five were chosen because of frequent statements in the literature as to their light-sensitivity. These chemicals or solutions were stored as follows: 1,400 specimens exposed to direct daylight on the roof; 450 specimens in a glass-doored bookcase in the office; 300 in a dark closet in the dark room.

In measuring deterioration, various methods were followed. Wherever feasible, the official assay process was employed. This seemingly perfect method, however, did not always indicate real deterioration. For instance, diluted hydriodic acid, syrup of hydriodic acid, and syrup of ferrous iodide were stable in all types of glass containers under all light conditions as far as iodide content was concerned, but within two to six months of direct daylight, these preparations became so dark as to render them unsalable.

In the second group of chemicals examined, notably ether and chloroform, deterioration was indicated by official tests for specific impurities. In a third and larger group, the criterion of deterioration was the change in color.

Findings as to Deterioration

Exposure for 1 Year

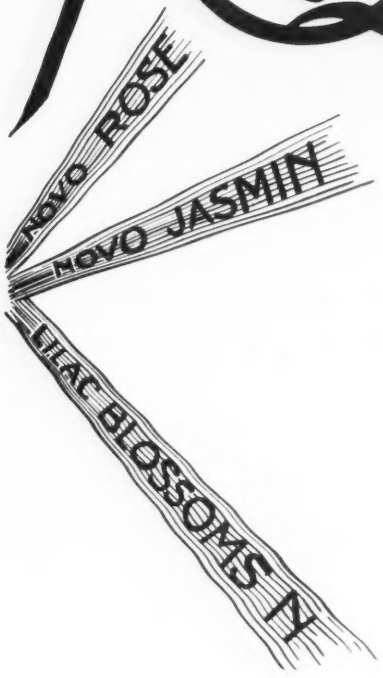
Stable in all types of glass containers under all conditions	*Stable in all conditions diffused light*	*Unstable in all conditions of light and darkness*
Hydriodic acid, dilute (as to HI content)	Adrenalin hydrochloride solution	Apomorphine hydrochloride, solution
Hydriodic acid, syrup (as to HI content)	Benzoic acid	Phenol (one sample)
Hydrobromic acid, dilute	Chloroform	Physostigmine salicylate, solution
Mercuric iodide	Ephedrine hydrochloride solution	Solution of arsenic and mercuric iodide
Phenol (one sample)	Hydriodic acid, dilute (as to color)	Solution of chlorinated soda
Syrup of ferrous iodide (as to FeI_2 content)	Hydriodic acid, syrup (as to color)	Spirit of ethyl nitrite
Sulphurated potassa	Mercurous chloride	
	Pyrogallol	
	Resorcinol	
	Syrup of ferrous iodide (as to color)	
	Thymol iodide	

It will be seen that out of 20 medicaments reported, three were stable under all conditions of exposure, whether in direct daylight or in diffused light, 11 were stable after exposure one year in diffused light resembling conditions obtaining in the average drug store; in one case (phenol) permanence was dependent upon the presence or absence of a stabilizer, while five were unstable in all conditions of light and darkness. The latter group will be considered as individuals below.

Analytical figures indicate that exposure to direct daylight was too severe a test for most chemicals studied. Comparing chemicals exposed in direct light (on the roof) and in diffused light (in a closet with glass doors) it is noted that there is about 3 to 12 times as much deterioration in direct daylight as is noted in samples kept in diffused light. Moreover, other

(*Continued on page 507*)

AQUALITY THREE



Your popular priced cosmetic line requires a perfume oil ready-to-use, low in cost, and of proven popular appeal that can be used to scent all *your preparations — lotions, creams,* powders, hair tonics, bath salts, and extracts.

These three oils meet these requirements. A sample will convince you. Send for it!

An odor for every perfuming requirement.

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Bath Cosmetics and Preparations

Interesting bath preparations which are selling in various parts of the world would make profitable additions to the line of any manufacturer. Interesting formulas are given.

AN IMPORTANT class of bath cosmetics is that in which herbs, are used. Use of herbs for this purpose dates back to ancient history, but there are new ways of using them and of combining the herbs with other products which enhance their value and give more effective results. All herbs used in bath cosmetics have an irritating action on the skin, this being a benign irritation. This irritation is reflected throughout the entire body. Furthermore, it is a fact proven by many medical experimenters, that the odor of the perfume or of the botanical product in these preparations, has a beneficial effect upon the nerves, besides the frequent salutory action it may have on the bronchial tract. The presence of a pineneedle odor in the bath salt, for example is known to cause deeper breathing, the promotion of secretion in the mucuous membranes and the resorption goes so far in the system that it has been at times observed that the urine has a distinct odor of violets.

There is a certain amount of disagreement as to the effectiveness of a bath cosmetic prepared from artificial materials as compared with one made from only natural products. The contention is that with the artificial product, the essential oil floats merely on the surface of the bath and has therefore only a small time and area with which to come into contact with the skin. The difference in the natural product is that the oil in the botanicals is brought into colloidal solution in the bath water and the action must therefore be more effective.

Pineneedle extract is an aromatic and astringent product used in large quantities for this purpose. Pineneedle extract may be adulterated at times with sulphite cellulose waste liquor. Modern manufacture of the extract consists in first distilling off the essential oil from the raw material and then treating the product with steam without pressure. The product is then evaporated in vacuum to a mass of honey-like consistency. The originally removed essential oil is then added to this mass before it has entirely cooled.

While it is possible to use liquid pine needle preparations, the crystaline solid salts are much more popular. These crystalline salts are mostly finely crystallized Glauber's salt, soda, sodium thiosulphate and rock salt. The salt is generally colored first with a dyestuff in a very dilute alcoholic solution, generally one in 200 parts by weight. Then 100 parts of the crystals are mixed with 5 to 15 parts of the dyestuff solution. The crystals are then heated to evaporate the alcohol and may be perfumed with solution of 1 part of essential oil or other suitable perfume in 2 to 3 parts of alcohol. When it is desired better to fix the perfume, a solution containing a fixative is used. This also prevents vaporization of the water of crystallization in the crystals, which is essential in maintaining the good appearance of the product and in ensuring easy solubility. The salts are of course properly mixed with the pine needle extract.

It is also comparatively simple to make finely pulverized bath salts. It is essential in this case that salts which are strongly hygroscopic, like common salt, be used only in small proportions. These salts are sometimes packed in aluminum containers and in this case alkaline or acid salts, such as soda, sodium phosphate and tartaric acid should be absent. Best results have been obtained in finely pulverized bath salts when the less hygroscopic salts, potassium sulphate, sodium sulphate, sodium bicarbonate and borax are employed. Very good results have been obtained with sodium benzoate.

The proportions in which the various salts are used varies widely. A good mixing ratio is the following: 6 parts of sodium sulphate, 3 parts of borax, 1 part of sodium benzoate. Use of borax and soda in bath salts will aid in softening the water. In perfuming mixtures of this sort, it is effective to mix the essential oil with an absorptive substance, such as sodium

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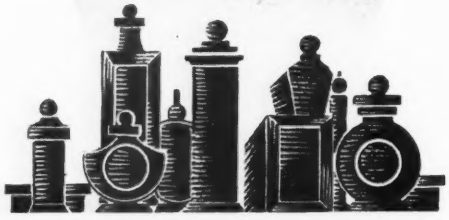

Sole Agents for
SCHIMMEL & COMPANY
Germany

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benzoate or starch and to mix it with the other ingredients. A water soluble dyestuff may be used to perfume the salts.

A good formula for the production of pine needle extract bath tablets is as follows: 65 parts of common salt, 15 parts of borax, 17 parts of true pine needle extract, 3 parts of pine needle perfume oil, such as pine needle oil, bornyl acetate, oil of silver pine, oil of knee pine, rounded off with lavender oil, oil of sage, and strengthened with eucalyptus oil. About 10 to 15 parts of fluorescein are used for color.

A pine needle extract preparation which will give the bath a fine green color is made as follows: 25 parts of pulverized borax, 25 parts of common salt, 12 parts of calcined soda, 0.05 part of fluorescein and 1½ parts of oil of silver fir. Another formula calls for 5 parts of fluorescein, 10 parts of ammonia, 25 parts of oil of knee pine, 25 parts of oil of silver fir, 935 parts of 95% alcohol. Uranine may be used in the place of fluorescein with the result that a greener shade is obtained.

A bath preparation of mixed odor is made as follows: Oleum juniperi baccarum, oleum lavandulae ana 10 parts of each, 25 parts of lemon oil, 30 parts of pinus pumilio oil, 125 parts of pinus sylvestris oil and 20 parts of uranin in 150 parts of alcohol denatured with carbon tetrachloride, or isopropyl alcohol, and mixed with 5,000 parts of sodium chloride, crystallized. The finished product does not contain any alcohol and the odor, developed by standing for some time is extraordinary.

Pine needle bath milk is prepared as follows: In one process the milky consistency and appearance is secured by emulsification with soap, gum tragacanth and the like. In a second process the same effect is secured with tincture of benzoin. Other directions call for lanolin as an aid in procuring the emulsified condition. The simplest formula calls 2 parts of eucalyptus oil, 2 parts of lemon oil, 18 parts of oil of silver pine, 15 parts of knee pine oil, 400 parts of tincture of benzoin, 8,000 parts of alcohol and 3,000 parts of water. In another formula, 6 parts of soda soap are dissolved in 100 parts of alcohol; 10 parts of this mixture are triturated into a smooth paste with ½ parts of gum tragacanth powder. Then there are added 4 parts of pine needle oil, 1 part of juniper oil and 12.5 parts of alcohol. As soon as this mass has been uniformly mixed, 15 parts of water are added and the emulsion is formed by vigorous shaking and agitation. At the end 50 to 60 parts of water are added.

Pine Needle Balsam

Pine needle balsam is prepared as follows: 3 parts of lavender oil are mixed with 20 parts of pine needle oil, 25 parts of knee pine oil 1,000 parts of alcohol and enough chlorophyll to give desired green color. Following formula is for pine needle balsam with approximately 50% alcohol content: 100 parts of tincture of nutgalls, are mixed with 50 parts of aromatic tincture, 50 parts of sweet spirit of niter, 20 parts of ethyl acetate, 25 parts of pine needle oil, 50 parts of knee pine oil, 5,000 parts of 95% alcohol and 5,000 parts of distilled water. Sugar color or chlorophyll may be added to color the mixture.

A pine needle bath preparation may also be made as follows: 20 parts of bath chamomille, 40 parts of peppermint leaves, 100 parts of calamus root, 60 parts of woodruff herb and 80 parts of eucalyptus leaves, the entire mixture cut up into proper form, are treated with 4,800 parts of 96% alcohol and macerated for 14 days. Mixture is filtered and residue pressed. The filterate is mixed with 120 parts of aromatic tincture, 50 parts of oil of Siberian fir needles free from terpenes, 20 parts of knee pine oil, 20 parts of juniper oil, 15 parts of eau de cologne and 275 parts of pure glycerin of 28° Be. Residue after filtration may be digested with 4,000 parts of boiling water and filtered. The two extracts are united and colored green with chloropyll.

Oxygenated Salts

Another important class of bath preparations contains oxygenated salts, which release oxygen gas during the bath. Preparations that develop carbon dioxide during the bathing process are closely allied to the former and the two may be grouped together in the class of effervescent bath salts. These are the preparations that have been recommended for attaining slimness of figure.

The simplest carbon dioxide releasing preparation contains sodium acid sulphate and sodium bicarbonate. While this preparation is effective, it is by no means so effective as the mixture which contains tartaric acid or potassium bitartrate. These chemicals increase the cost of the preparation, but they are well worth while adding. They are used in the place of the sodium acid sulphate. If 900 parts of sodium bicarbonate are used, then about 750 parts of pulverized tartaric acid or 1,200 parts of potassium acid tartrate are required. It is essential that this preparation should not react to produce carbon dioxide before it is actually used, and in order to prevent the reaction from taking place prematurely it is sufficient to add to it a water-absorbing salt, such as sodium sulphate, and about 200 parts are enough to give good results. Instead of the sodium sulphate, the same proportion of starch may be used. It is also useful to add a lather-producing agent so that the carbon dioxide is released in the bath in very fine bubbles. Such an agent is pulverized soap or dry crude quillaia bark extract or else a solution of casein in lye. These preparations may be used in connection with pine needle compositions as well.

A new formula for the preparation of bath salts that evolve carbon dioxide is the following: 90 parts of sodium carbonate, 75 parts of tartaric acid, 120 parts of starch, 15 parts of lemon oil and 5 drops of ionone. The oil and starch are mixed and other ingredients

(Continued on page 493)

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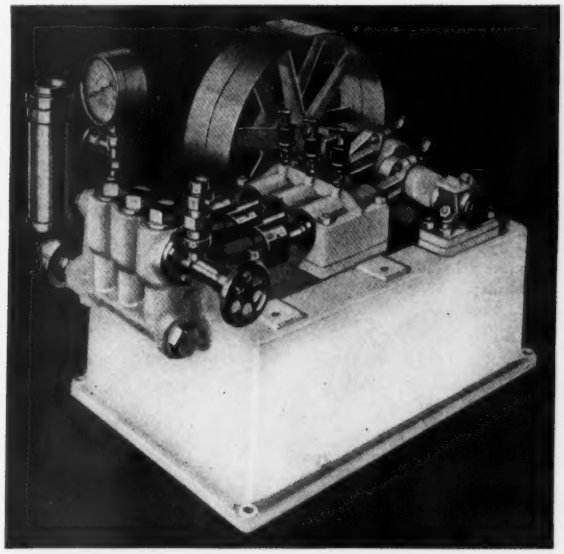
Colloid Mill or Homogenizer?

By Francis Chilson

Confusion often exists among manufacturers as to whether a colloid mill or a homogenizer should be used for a certain operation. Mr. Chilson explains the advantages and limitations of both of these important pieces of plant equipment.



A Type of Homogenizer

IN VIEW of the widespread emphasis on colloidal research and the increasing application of its findings to the products of the trade, production men are becoming more and more interested in the mechanical means for effecting emulsifications, dispersions, disintergrations, suspensions and blending. It has been said that practical production men without any training in chemistry whatever are often able to secure better results than theoretical chemists. This may be because they never pause to ask *why* a given result is achieved but are interested solely in *how* it is achieved. Then, too, years of actual handling of raw materials gives the practical man a sort of sixth sense which enables him to guess at a probable result, and he rushes ahead where the chemist would proceed cautiously.

The making of emulsions by practical men, interested only in results and in the means for attaining them, has given birth to all sorts of odd ideas respecting emulsions. Likewise, the recent emergence of specialized equipment for making emulsions and the concomitant discussion aroused has led to misunderstanding both of the essential differences in the two main classes of such equipment and the effect of mechanical action on the emulsions themselves. Hence, this paper will discuss some of these points even though they may seem elementary to the experienced chemist.

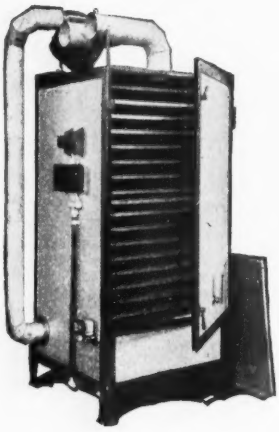
First; what is an emulsion ? It is the homogeneous state of two or more immiscible liquids or solids and a binder or emulsifying agent. A perfect emulsion is permanent in that it cannot be broken down by ordinary means *ie.*, mechanical separation or the application of heat or cold. It is unlike a chemical compound in that each of its elements or components retains its chemical identity and properties.

To use the classic examples there are two types of common emulsions: the oil-in-water in which the oil is dispersed in microscopic droplets in the water; and the water-in-oil in which the status of the components is reversed. The dispersed particles are called the "internal phase"; the medium is called the "external phase."

While nothing is definitely known about the function of the agent it is commonly believed that it serves to keep the dispersed droplets apart by coating them and also by reducing their surface tension. Often—as when soaps are used as the emulsifying agents—one element is miscible in the water; the other in the oil, and the two immiscible components are thus held, in effect, by a connecting link. Some theorists hold that the medium or external phase surrounding the dispersed particle prevents them from coalescing.

The stability or permanency of an emulsion depends upon the agent used, the size of the droplets of the dispersed component and the viscosity of the medium.

FORGING NEW TOOLS FOR PRODUCTION



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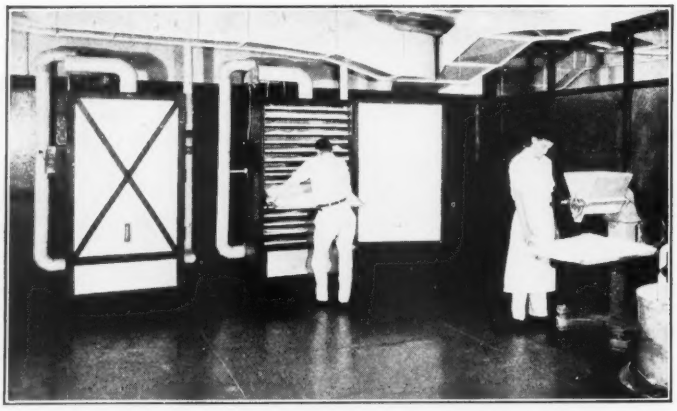

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When the emulsifying agent permits the droplets to combine or when, because of inneffective mechanical cation, the droplets were too large in the first place, the emulsion will separate or break.

Hence, there are two important steps in the making of a permanent emulsion: the selection of the proper agent and the use of emulsifying apparatus that will sufficiently reduce the particle size of the components. The importance of the right equipment is exemplified by the experience of the Elmo Co. (among many others) which for years had had difficulty with its Cucumber Lotion, until finally a homogenizer was adopted and at once the difficulty ended.

The improvement of mechanical devices for emulsification has given rise to a popular error to the effect that, since they achieve such a fine dispersion, an emulsifying agent is not needed. This is not true. An emulsifiying agent is absolutely indispensable no matter how the emulsion is made.

Why Emulsions?

The next question that arises is: why emulsions? They are used simply because they offer the most convenient form for bringing the various components in the formula to the affected or treated area always in the correct proportions; because the emulsion itself will have an effect that could not be obtained from the individual components; and, finally, because it is often impossible to use the individual components separately.

In brief, emulsions and colloidal solutions are rapidly obsoleting the old fashioned "shake well" labels that in the old days used to adorn almost every bottle that left the factory. In an emulsion the various components may be said to have both an individual and a combined action. Thus, in a toilet cream the petrolatum acts individually as a lubricant and in combination as a vehicle. Lanolin is at once a healing agent and an absorption base. It performs its function as a healing agent while at the same time stabilizing the emulsion which may contain also an aqueous solution of some antiseptic or medicament. Frequently, as in many liniments and lotions, certain of the individual components would cause an acute dermatitis if allowed to touch the skin alone or even in partial solution. If emulsified with the proper lubricator or healing agent the danger is eliminated without impairing the beneficial effects of the particular component.

Thus, it is seen that if a formulae contains immiscible materials that can be emulsified by the addition of the proper agent, an emulsion is one logical way to insure that the desired effect will be obtained.

There are several other problems that are akin to emulsification in that they must be handled in the same equipment. The first of these is suspension. When it is necessary to carry an insoluble solid or liquid in another vehicle, it is desirable that separation or precipitation be inhibited. Sometimes the problem can be met by converting the formula into an emulsion by the addition of the proper components. Sometimes it can be met by the addition of certain gums. Very often it can be met by the use of either a colloid mill or a homogenizer.

Another problem is dispersion. This is a difficult problem when it is desired for instance to disperse a very small amount of perfume oil or a powerful medicament in an aqueous lotion. Still another problem is disintegration, which is required when it is necessary for example to "smooth" a toothpaste—that is the disintegration of solid particles in a liquid or semi-liquid vehicle. (In effect this is grinding.) Another problem is blending. Often a preparation is aged for great lengths of time in order to allow the absorption or permeation of medicaments, flavors or perfumes.

Therefore, the disintegration or dispersion of particles into the smallest divisions possible is called colloidal dispersion. A permanent suspension of solids or other insoluble particles in a liquid, while it may resemble an emulsion, is really a colloidal solution. Here arose, probably, the popular error respecting the nature of the result achieved by colloid mills or homogenizers. In a colloidal solution there is no binding agent; in an emulsion there must be.

Other Mixers Used

We do not wish to convey the impression that, because colloid mills and homogenizers are so intimately connected with emulsification and kindred problems, mixers of various kinds are necessarily inadequate or obsolete. Many emulsions require no finer homogenization than can be given by ordinary mixers. In any case mixers will probably never become obsolete. There will always be straight solutions to be made, and in most cases the use of a colloid mill or homogenizer requires recirculation or else a thorough preliminary mix.

The terms, "colloid mill" and "homogenizer" are often confused because some of the colloid mill makers advertise their product as homogenizers. As a result many production men immediately think of a colloid mill whenever a homogenizer is mentioned.

The two machines, although they both "homogenize" are utterly different in principle, construction, operation and, in some cases, application.

A homogenizer will "homogenize" any liquid or semi-liquid that can be forced through a heavy duty pump *provided that it does not contain many solids*. A colloid mill on the other hand will "homogenize" any liquid or semi-liquid that can be forced through a pump *whether it contains solids or not* provided that the solids are not in too great a proportion and are not too abrasive in character. A tooth paste or a liquid face powder could be run through a colloid mill but might not be run through a homogenizer. Thus, it is seen that both machines have their own particular province in the general field of homogenization. It

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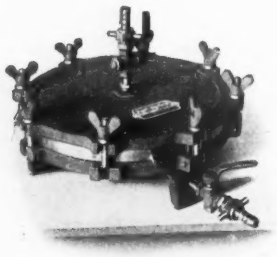

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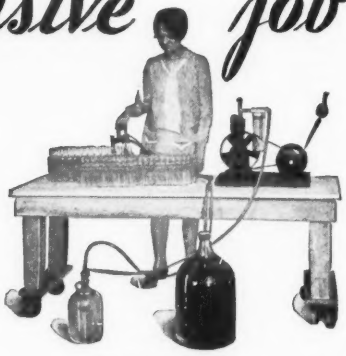

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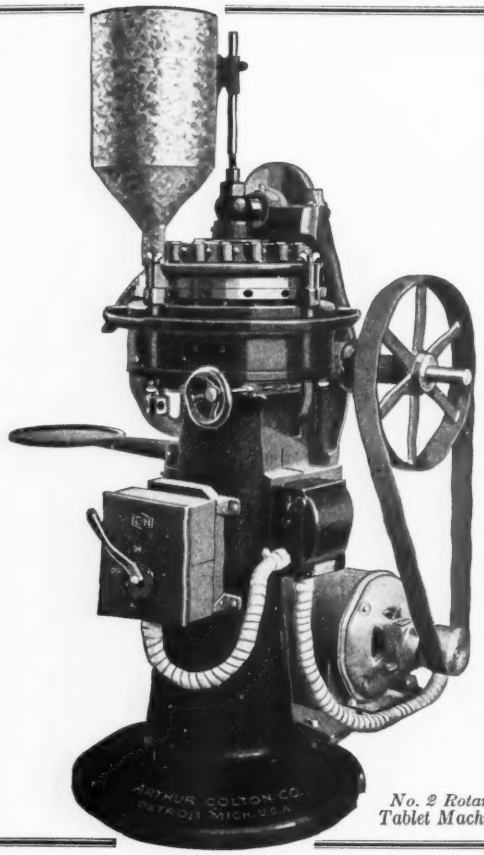

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is claimed (although the writer has made no experiments to determine which is correct) that a homogenizer will reduce the particle size of an oil or fat dispersed in water to one micron, whereas the smallest that can be effected in a colloid mill is three microns. The makers of the homogenizers appeal to the trade on the basis of finer results with a minimum of heating; the colloid mill makers on diversity of application. Both machines have been used in the trade on the same products, and the manufacturers who have used them swear by them. Homogenizers have been used for example on the traditionally difficult cod liver oil emulsions.

The machines differ in principle in that colloid mills achieve their purpose by means of interfacial or hydraulic shear, accompanied sometimes by a terrific beating or chopping; homogenizers accomplish the same result through immense pressure—ranging from a few hundred to 6,000 pounds per square inch. Thus, the homogenizer combines hydraulic shear and pressure relief dispersion. Recent researches have shown that the actual homogenization is accomplished, not so much by great pressure and shear alone, as it is by sudden *relief* from pressure. That is, the liquid being homogenized, "explodes" upon its release from this enormous pressure after it passes through the homogenizing valve. A brief description of the construction of both machines will serve to illustrate these differences.

Colloid mills consist of a plain, fluted or perforated rotor, which may be either flat or conical; and also stators similarly constructed. In a recent model the stator is eliminated and two rotors, revolving in opposite directions are employed instead. In the usual models the rotor revolves at speeds ranging from one to six thousand rpm. It is claimed, however, that operating speeds in excess of 3,500 rpm are not desirable because of the immense strain on bearings and shafting. In some mills the product is fed from the center of the rotor, ground in the minute interstice between rotor and stator or the two rotors, as the case may be, and discharged at the periphery. The material is sucked in and carried between the faces of rotor and stator by immense centrifugal force. At one time this was pointed to as a fault, it being claimed that the great friction entailed caused overheating and that the centrifugal force was so great as to discharge the material before it had been properly reduced or homogenized. This objection has been met in the newer models, which may be fed from the center of the rotor and discharged at the periphery or else, fed at the periphery and discharged at the center. Moreover, the charge of too rapid homogenization and heating has been met by the use of a cooling system and a pump with a by-pass which permits the material to be retained in the mill as long as desired. The introduction of a pumping unit has increased the range of viscosity that colloid mills will handle. All such mills are based on the theory that dispersion or homogenization varies proportionately with agitating speed.

The homogenizer consists of two elements: a heavy duty pump and a homogenizing head or valve. Most of the machine consists of the pump, the head being very small. This head (depending on the maker of the equipment) contains: a plunger and a perforated baffle; a series of discs; or a plain valve and seat. The latter two are by far the most widely used. In the baffle type the liquid is pumped from the supply tank and forced by means of plungers through the preforated baffle. In the disc type the liquid is forced between the discs into the discharge outlet. In the valve-and-seat type the liquid is forced between the finely ground surfaces of the valve and the seat into the discharge pipe.

In both of these types the discs and the valves and seats are made from stellite and ground to perfection. In the baffle types the size of the interstice cannot be regulated. In the disc types it is possible to adjust the disc so that the minute interstices between them may be of any degree of fineness from zero up. In the valve-and-seat type the valve is held down on the seat by means of a powerful spring, the tension of which may likewise be adjusted.

The reason why homogenizers cannot be used for liquids containing solids or abrasives is at once apparent. Unlike the colloid mill, the interstice through which the liquid must be forced is stationary; it does not exert a cutting or a grinding action. Therefore, material too coarse to flow through the interstice would plug it up, cause the relief valve to open and recirculate the feed back into the supply tank. If the material is extremely fine and abrasive it would cut the discs or the valves and seats so that they would be ruined. Under ordinary circumstances these discs or valves and seats do not have to be reground within one or two years, although this varies with the pressure. At six thousand pounds per square inch they might have to be ground every month. The grinding however, is simple, tools for it being provided with each machine. The drug and cosmetic industry's problems are handled at comparatively low pressures. The amount of pressure needed is determined by the size of the interstice in the homogenizing head, which in turn regulates the particle size of the homogenized liquid.

As to power factors and other considerations, there is no difference between colloid mills and homogenizers. About the same number of horse power are required to produce a given quantity of a given substance in either type of machine. They may be obtained capacities ranging from a few gallons per hour to a thousand. Both machines of the same capacity will occupy about the same amount of floor space.

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For Plant Managers

By Francis Chilson
Consulting Production Engineer

Improvement of Powder Mixing

This problem has worried us for a long time. A few months ago we thought we had the ideal powder mixer in the form of a tumbling barrel partitioned into compartments which divided the powder as it fell from one section of the tumbler to the other. The mix was quickly accomplished: two minutes being required to distribute perfectly a previously prepared and dried calcium carbonate color mass. Unfortunately the attrition of the tumbling powder was not sufficient to break all the minute lumps formed by the oils and color.

Nevertheless, we were convinced that the ideal powder mixer should combine a tumbling barrel fitted with internal fins or baffles to carry part of the batch up to an almost seventy degree angle before allowing it all to fall back upon itself, and also an agitating element to break up minute lumps and to give the constantly tumbling mass a thorough beating. Such a device, we reasoned, ought to give results in a half an hour that would require four or five in an ordinary horizontal-spiral-agitator mixer.

At length it dawned upon us that what we were after is a churn. A common butter churn. Several standard churns are built in capacities ranging from fifty to a thousand gallons. They are cylindrical in form and lined with wood. In their interior are baffles, which would carry the powder up; and also wooden beaters, which rotate in a direction opposite to the movement of the cylinder. Although we haven't experimented with one yet; we can see no theoretical reason why a churn is not the ideal powder mixer. Certainly the entire batch would be kept continually in a rapid flux while at the same time being subjected to a terrific beating. And it would be dustproof, absolutely.

It is possible that the wood might absorb too much of the color or odor, but one of the churn builders assures me that they can be made entirely of metal, and that this would reduce their cost materially.

A churn could be used for mixing all kinds of dry materials: drugs; crystalline substances; light and heavy powders.

It might be used also for semi liquids and pastes if they would not stick too much to the baffles. Its agitating element is built strong enough to thoroughly knead butter as it is formed in the cream, and afterward to knead it thoroughly when the buttermilk has been run off and wash water run in. There are not many substances in this industry more viscuous than butter.

If you are interested we shall continue our research. Please let us know.

Glycerite of Starch

This has always been a troublesome substance to make, and for this reason many manufacturers have abandoned it as a base for toothpaste. It has many advantages, however, which recommend it to the tooth paste maker. Many of the difficulties in making it, however, can be eliminated and the process speeded up by simply heating the starch before adding the glycerine.

Repairing Glass Lined Tanks

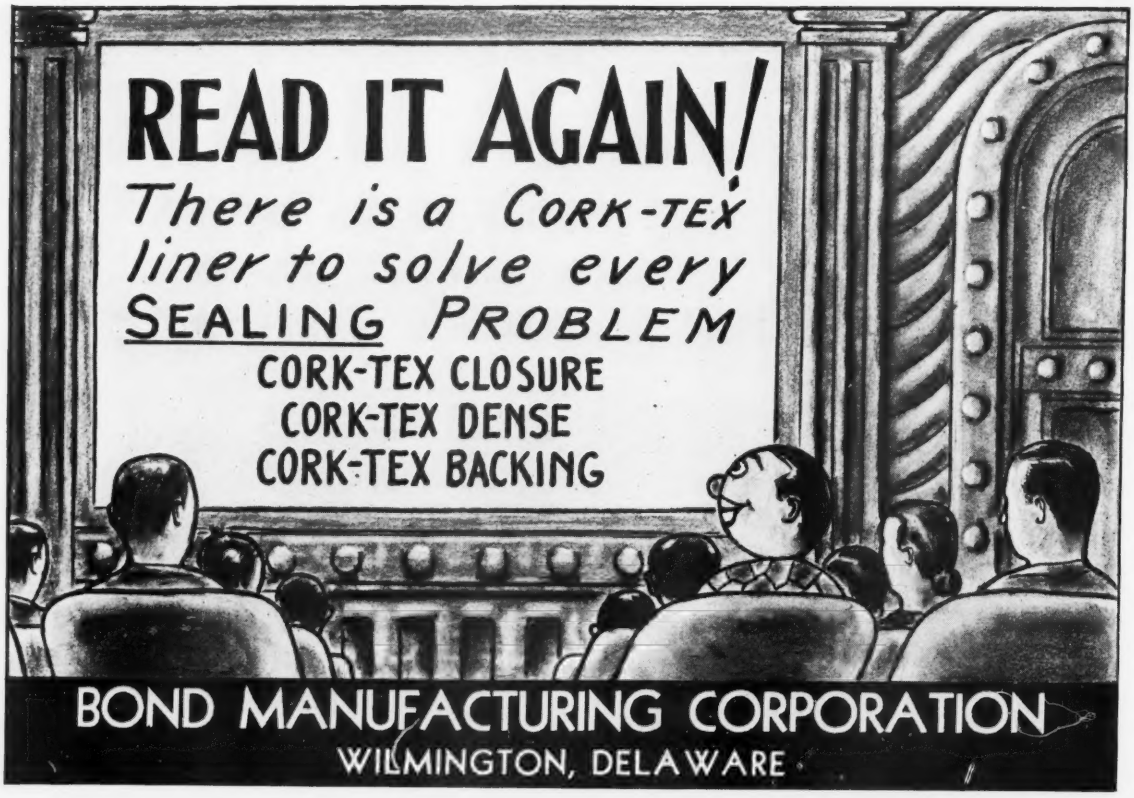
Glass lined tanks (and all others as well), should be frequently inspected to detect cracks and chipping. If a tank has been chipped or cracked it is not always essential to have it re-lined at once. Hammer into the crack a little gold sponge or else fill it with a mixture of litharge and glycerine. The former is more desirable because less chemically active. But for ordinary purposes the litharge and glycerine is serviceable and becomes almost as hard as the glass itself.

Improvement of Manufacturing

In the last ten years the trade has put an immense amount of stress on the improvement of packaging operations, but relatively little on manufacturing. A good many of the equipment houses which have always served the trade have, in response to the demand, placed great emphasis on the development of new and improved packaging machinery. It appears, however, that the pendulum of improvement must swing the other way, and the many difficult problems of manufacturing will come in for critical scrutiny. The improvement of the quality and rate of filtration is receiving considerable attention; the stabilization of emulsions is coming rapidly to the fore; but other problems are not receiving commensurate study. An immense amount of space is still devoted to storage and aging. Continuous mixing has as yet made but little progress although we have heard that this is receiving the attention of one of the well known equipment houses. We need to learn how to compound our batches faster; to make them more uniform in texture, clarity and color; to make them, in the case of medicines, more bland to the taste; to make them, if they be emulsions, more stable; and if they be not, to make them more uniform in blend. Too much space is devoted to manufacturing because most of our preparations must be made up several days in advance, if for no other reason than that the manufacturing department cannot compound batches fast enough to keep abreast of packaging. In a great many plants the amount of money invested in work in process—face powders, lotions, medicines, tonics, drugs, is tremendous, simply because we have not yet learned how to speed up the rate of reaction, of permeation, of homogenization—to mention only a few of many difficult problems. And frequently when we have learned how to accomplish a difficult task, the means for doing it are often of such capacity as to be impracticable for any but the extremely large manufacturers.

Note on Mixing

In buying a mixing tank the size and speed of the agitator should always be considered in relation to the capacity of the tank or kettle. For a large kettle the agitator should be relatively wide in diameter and slow in motion. A small kettle should have a small but high speed agitator. The reasons for this are obvious. A small high speed agitator in a big tank simply bores a hole in the batch in the immediate vicinity of the agitator, while the bulk of the batch remains comparatively motionless. If you have noticed an outboard motor churning the Water in its immediate vicinity while that a few feet away remains untroubled or, at best, is in motion on the surface only, you will see what we mean. The inertia of mass must be overcome slowly. If an engineer opens his throttle too quickly his wheels spin on the rails and the engine does not move at all. The principle is the same.



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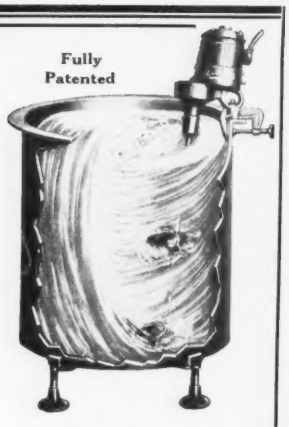

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An interesting example of inefficient mixing came up in the plant of one of our clients. The superintendent showed us a batch of lotion being made. He was using a portable agitator, driven at such a high rate of speed that a vortex two feet deep was created around the shaft of the mixer. He was sure he was getting very powerful agitation. But really all the mixing action he was getting was coming, not from the mixer, but from friction set up by the rotating wave against the wall of the tank. If he had introduced a set of baffles along the wall of the tank, he would have broken the wave and speeded up the mix. But this would have placed a tremendous strain on the motor. If on the other hand, he had run his mixer at half the speed he would have shortened his mixing time considerably. Mixing, in brief, simply means the constant movement of all particles—a continued flux of the entire batch.

A New Insulating Liquid for Tanks and Piping

Although it sounds almost too effective to be real, the Liquilox Company, Ltd., of Los Angeles, has announced a new protective coating called Liquilox. It is said to resist all acids, alkalis and salts and will endure temperatures from 1400 to 1500 degrees F. To illustrate its resistant qualities, the company stated that plating tanks containing 18 pounds of potassium cyanide per gallon were coated with one coat of Liquilox, and, after 18 months of service, were discovered to be in perfect condition and did not require re-coating. The substance is made from an ore and it may be applied by unskilled labor with a gun or a brush to hot or cold surfaces.

Pine Inhalant

This preparation can be made as follows: Menthol 10 grams; Oil Bergamot 2.5 grams; Oil Lavender 2.5 grams; Oil Pine 10 grams; methyl salicylate 5 grams; acetone 100 grams.

Shake 'em up together. If it doesn't asphyxiate you at once, let's know and we'll dig up another formula.

Sectional Tanks and Stills

You don't have to tear a building partly down any more to install large capacity tanks and stills which occupy more than one floor or which are, at least, too large to come through ordinary factory doors. United Drug has installed a Monel metal unit which was brought to the plant and rolled through the door in sections. Special gaskets were provided to place between the flanges of the sections before they were placed in position. Then the sections were fastened together.

New Catalogues

From F. J. Stokes Machine Co., Philadelphia we have received many interesting phamphlets:

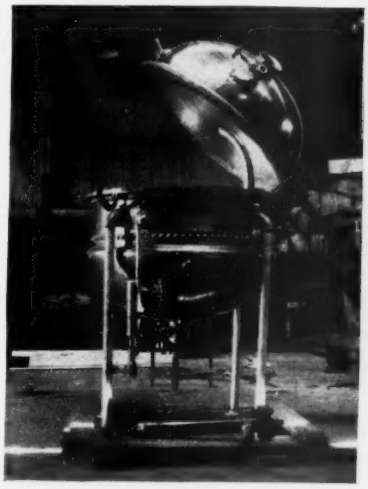
Bulletin 100 is a pocket size abridgment of their general catalogue and contains a lot of important dope on drying equipment of all kinds, stills, tablet equipment, pumps and mixers.

Bulletin 149A is a new edition of Stokes bulletin on high vacuum pumps. On the back of it is a very interesting chart which shows at a glance the boiling points of water under various inches of vacuum. It also contains what we like to see in every piece of equipment literature,—a diagram of the pump showing how it operates together with a very lucid explanation of its operation.

From Read Machinery Co., York, Pa., we have a leaflet describing their heavy duty mixers, plain and vacuum for mixing heavy masses:—pill, tablet, crude drug paste, etc.

From Lowerator Manufacturing Co., Brooklyn, N. Y. we have an illustrated leaflet describing and depicting various types of lowerators, pusher bar elevators, roller conveyors and spiral chutes.

From Brighton Copper Works, Cincinnati, Ohio we have a phamphlet describing the Brighton tilting top vacuum



kettle. The upper half of the kettle is hinged so that it may be swung back. These kettles come in various capacities and may be built of any metal.

From Sprague Sells Corporation, Chicago, a catalogue describing the M & S Universal Filling Machine, used for filling semi-solid and very viscous products into cans and jars of various sizes. The machine is used (principally in the food trades) for filling such diverse products as Wesson Oil and Plum Pudding. It has been used in this trade for filling hair restorer.

From U. S. Colloid Mill Corp., Long Island City a catalogue describing its colloid mills of various sizes. This company has sold mills in the trade for emulsifying, cod liver oil, castor oil, malt extract, mineral oil and agar, etc. A separate bulletin describes the new SR type, which embodies several improvements: no foaming nor air inclusion; practically no temperature rise during emulsification; homogenizing action brought about by a combination of pressure and crushing action instead of interfacial shear as in the older types.

From J. H. Day Co., Cincinatti, Ohio, a pamphlet describing the laboratory size

Day-Hurrel colloid mill. This mill is capable of handling from five to twenty-five gallons per hour depending on the liquid.

From Bagby & Co., Chicago we have a bulletin describing the Bagby hand filling machine for creams and pastes. It is a hopper type with plunger feed.

From Horix Manufacturing Co., Pittsburgh, Pa. a catalogue describing their line of filling machines both automatic and semi-automatic. Also a leaflet describing the Horix-Haller Model H-E-C rotary vacuum filler, which incorporates a capping device for crown capped bottles. This company also manufactures several types of extremely useful small scale fillers both hand and semi-automatic.

From Stokes & Smith, Philadelphia, we have received a pamphlet describing and illustrating their Universal Filler, which may be used for filling all kinds of dry materials and also pastes and creams. This machine is adjustable for container sizes running from one-half ounce up to one pound.

WANTED!

A Group of Progressive Small Manufacturers...

For your benefit we have organized a special group consulting service which gives you unlimited, practical assistance with all your ordinary chemical, purchasing, manufacturing, equipment, packaging, package design and general problems at the extremely moderate monthly fees made possible by the group rate.

This service is strictly confidential. Your individual problems are given expert attention based on many years of practical, executive experience in your own industry.

No limit is placed on the number of times you may request assistance, suggestions and information.

Extraordinary problems, such as the organization and equipment of a new factory or the re-organization of an old one; the creation of new packages; or prolonged, confidential research work, will be undertaken for reasonable special fees.

You are not obligated to pay the remainder of the monthly fees if you become dissatisfied and wish to discontinue the service before the end of the contractual period of one year.

Even very large firms, like Elmo, Inc., Puritan Cosmetic, Inc., and others, are among those who have found our service extremely valuable in supplementing the work of their own technical staffs. They will gladly recommend it.

We have helped them. We can help you.

As our organization can handle only a limited number of clients, we suggest that you make your investigation now.

FRANCIS CHILSON

Consulting Production Engineer

One Hundred and One West Thirty First Street

New York City

News

People

Dr. Abel Resigns

Dr. John Jacob Abel, one of the world's foremost pharmacologists, has resigned as professor of pharmacology at the Medical School, Johns Hopkins University, to devote himself to further pharmacological research and editing the Journal of Pharmacology and Experimental Therapeutics. He has been professor of Pharmacology at Johns Hopkins since 1893 and editor of the journal since 1909. He is regarded as probably the greatest living authority on the chemistry of the secretions of the ductless glands and in 1927 was awarded the Willard Gibbs Medal of the Chicago section of the American Chemical Society, as one, who, "without pecuniary advantage to himself, has done more than any other living American scientist to promote enjoyment of life".

Dr. Cook Testimonial

Professor E. Fullerton Cook, 1931 recipient of the Remington Honor Medal and chairman, U. S. Pharmacopoeia X. Revision Committee, was tendered a testimonial dinner at the Hotel Pennsylvania, Philadelphia, November 16. The dinner was tendered under the auspices of the New York and Philadelphia branches of the American Pharmaceutical Association and formal presentation of the Remington Medal to Dr. Cook was made at that time.

D. P. Smith Resigns

Chemicals & Drugs, Inc., Chicago, manufacturer of "Vitalex," has announced a reorganization of the company with David P. Smith as president.

Reber Joins Ever-Dry

S. M. Reber, formerly head of the toilet goods department, Marshall Field & Co., has been elected vice-president and general manager, Ever-Dry Laboratories, Inc., Los Angeles, deodorant manufacturer.

R. Johnson's Auto-Gyro

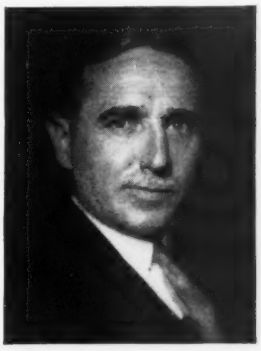
Robert Wood Johnson, general manager, Johnson & Johnson, New Brunswick, N. J., visited 16 midwest cities in two weeks on a trip made in his own Pitcairn "Auto-Gyro".

Carl Weeks' Farm

Carl Weeks, president, Armand Co., Des Moines, Ia., has purchased half interest in 640 acres of farm land in Franklin county, Iowa.

C. L. Bowman Resigns

Charles Luckey Bowman, since 1915 associated with the Stanco subsidiary of Standard Oil Company of New Jersey, being general manager and vice-president



C. Luckey Bowman

of Stanco, Inc., recently resigned and severed all connections with the company.

Mr. Bowman, who has a very wide acquaintance throughout the drug trade, was born in Jersey City, Oct. 28, 1887, and was graduated as a civil engineer from Princeton University.

Frederick M. Moss has succeeded Mr. Bowman in charge of Stanco operations.

General Metz

Herman A. Metz, president, H. A. Metz & Co., and General Dyestuff Corp., was tendered a testimonial luncheon October 22, at the Waldorf-Astoria Hotel, New York, in honor of his completion of fifty years in business. He started his business career at the age of fourteen

General Metz

with the P. Schulze-Berge Co., New York, and on October 19 celebrated his sixty-fourth birthday. On that date he was automatically retired with appropriate ceremonies from service in the New York State National Guard in which he held the rank of Colonel. Part of the retirement ceremony was his advancement to the rank of Brigadier General.

Lemmon Leaves H. Rubenstein

Guy Lemmon, formerly vice-president and general manager, Helena Rubinstein, Inc., New York, has become associated with Benton & Bowles, Inc., that city, advertising agency.

Wimmer's Silver Anniversity

Curt P. Wimmer, technical adviser, American Manufacturers of Toilet Articles, and head of the department of pharmacy and associate dean, New York College of Pharmacy, has just completed twenty-five years of uninterrupted service with the latter institution.

R. B. Magnus, Jr.

Robert B. Magnus, Jr., born 11.30 A. M. October 16, is the first son of the present generation of the Magnus family of Magnus, Mabee and Reynard. Young Robert weighed nine pounds at birth, and Mrs. Magnus and the child are doing nicely.

Edmonds Joins H. H. Ayer

Robert Edmonds, formerly Cleveland and Chicago manager, Houbigant, Inc., has joined the Harriet Hubbard Ayer organization, in the upper New York State and Western Pennsylvania territory

Lyon to Europe

Julian W. Lyon, F. W. Mead & Co., New York, drugs, essential oils and chemicals, sailed for Europe, November 7, accompanied by his wife. He will call upon his principals abroad.

Nunes Honored by King

George Nunes, vice-president, Leghorn Trading Co., Inc., New York, has been honored by the King of Italy with the title of Commendatore of the Order of the Crown of Italy.

Bergey Joins National Drug

D. H. Bergey, formerly professor of hygiene and bacteriology, University of Pennsylvania School of Medicine, has been appointed director of research in biology, National Drug Co., Philadelphia.

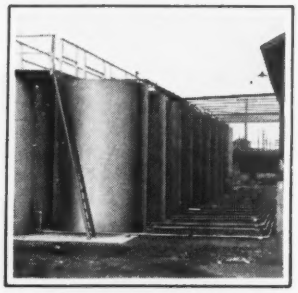
J. F. Ross Joins Mallinckrodt

John F. Ross, formerly with the J. T. Baker Chemical Co., Phillipsburg, N. J., has joined the staff of Mallinckrodt Chemical Works, St. Louis, as research chemist.

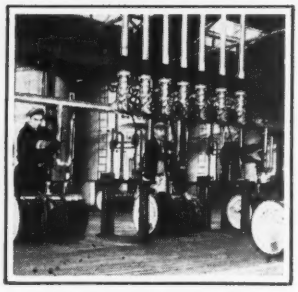
• DIVISION OF U. S. INDUSTRIAL ALCOHOL CO. •

In these large distilling columns many chemical solvents are produced.

An assembly of 20 large storage tanks for important solvent chemicals.



Accurate measure is guaranteed by these automatic - electric filling machines.



ABSOLUTE ETHER

(Ether, Ethyl, Absolute)

$(C_2H_5)_2O$

SPECIFICATIONS

Color and Properties:
Volatile liquid, water white; characteristic odor, with sweetish burning taste.

Constants:
Specific Gravity—Not more than 0.710 at 25/25°C.
Weight—5.90 pounds per gallon.
Acidity—Not over 0.003% as acetic acid.
Boiling Range—About 35°C.

Solubility:
Miscible with alcohol, benzol, chloroform, petroleum ether and fixed or volatile oils. Soluble to extent of about 8% in water at 25°C.

Derivation:
Dehydration of ethyl ether over metallic sodium.

Method of Purification:
By careful distillation.

Grades:
Absolute (free from water and alcohol).

Containers:
50-, 10- and 5-gallon drums.

Fire Hazard:
Inflammable. Precautions must be taken to keep the vapors away from fire or flames.

Railroad Shipping Regulations:
Requires Red Label.

ABSOLUTE ether is a valuable laboratory agent. Whenever a dry ether, free from alcohol and water, is required for extractions, analytical work and organic synthesis, the grade of absolute ether manufactured by the U. S. Industrial Chemical Co., Inc. will be found most suitable.

It is made from U. S. P. ether, which is treated with metallic sodium to remove water—then carefully distilled. This grade of ether is particularly well adapted for use in Grignard reactions due to its passing through a special process of purification.

Trial samples will be furnished on request, while working quantities are supplied at nominal cost. The U. S. Industrial Chemical Co., Inc., 60 East 42nd Street, New York, N. Y.

U.S. INDUSTRIAL CHEMICAL CO., INC.

WORLD'S OLDEST AND LARGEST MANUFACTURER OF ALCOHOL CHEMICALS

Ethyl Phthalate. Butyl Phthalate. Nitrocellulose Solutions

Amyl Acetate. Butyl Acetate. Ethyl Acetate. Ethyl Chloro Carbonate. Ether

• DIVISION OF U. S. INDUSTRIAL ALCOHOL CO. •

Swann Elected

Theodore Swann, president, Swann Corp., has been appointed a member of the Alabama Industrial Development Board for a period of twelve years.

Moore Joins Dow

Garnett V. Moore, formerly with Western Gas Construction Co., has become associated with the Dow Chemical Co., Midland, Mich., as assistant in organic chemical research.

Leave United Chemical & Drug

Russell Howe and E. DeWitt Osborne, formerly with King & Howe, Inc., and more recently with United Chemical & Drug Corp., New York, have severed their connections with the last-named organization. Mr. Osborne has resumed his connection with Thomas A. Hedley, New York representative for Evans Sons, Lescher & Webb, Ltd., London, and National Drug & Chemical Co., Canada, with whom he formerly was associated.

Perry Leaves McKesson

Charles H. Perry, formerly general sales manager, McKesson-Eastern Drug Co., Boston, has become sales manager, Earl Co., New England drug factors. W. K. Chapman, formerly associated with him, has joined him in his new connection.

Hosking Joins Snell

Harry J. Hosking has resigned his position in the research laboratory, Roessler & Hasslacher Chemical Co., Co., Niagara Falls, N. Y., to engage in similar work with Foster D. Snell, Inc., Brooklyn, N. Y.

Riedweg Visits Givaudan

Jacques Riedweg, of L. Givaudan & Cie., Paris, has arrived in this country for several months' visit and is making his headquarters at the offices of Givaudan-Delawanna, Inc., New York, associate of his company. He is known to many manufacturers upon whom he has called in the past and this year he will again call upon the trade with the regular Givaudan-Delawanna representatives in the various territories throughout this country and Canada. He is reported to have several new and interesting chemicals and perfume bases.

Container Promotes Dixon

W. M. Dixon has been elected vice-president in charge of sales, Container Corp. of America, with headquarters at Chicago. E. R. Hankins has become vice-president in charge of research development and new business.

Grandfather of Twins

Robert B. French, Harshaw Chemical Co., has become the grandfather of twins, Elizabeth and Barbara, born October 11 to Mr. and Mrs. Charles Dawse, of Forest Hills, N. Y. They weighed 6 pounds and 6¾ pounds respectively at birth.

Jos. Huisking Starts 20th Year

Joseph A. Huisking, vice-president of Charles L. Huisking, Inc., New York, started on his twentieth year with that organization, October 28. He lives in Brooklyn, has charge of the firm's essential oil department, likes to fish and bowl. He also plays golf.

Bristol and Guck Lecture

Lee Bristol, vice-president, Bristol-Myers, Inc.; and Lois V. Guck, Helena Rubinstein, Inc., are among the lecturers to the class in National Advertising in Newspapers, conducted by the New York Times.

Comar Joins Magnus Mabee

W. A. Comar, Asheville, N. C. has become associated as traveling representative with Magnus, Mabee & Reynard, Inc., New York, Importers and manufacturers of essential oils, aromatic chemicals and balsams. He will cover the states of Arkansas, Louisiana, Mississippi, Oklahoma and Texas. Other southern representatives of the M M & R organization already well-known to the drug, pharmaceutical and manufacturing trades are L. E. Gillespie, J. W. Felton, Jr., as well as the company's supervisor of sales, Fred Rauch.

Cawood, Bank President

Richard L. Cawood, president, Patterson Foundry & Machine Co., has been elected president, Potters Bank & Trust Co., East Liverpool, Ohio. He is also president of the Patterson Steel Products Co., the Patterson Refractories Co., the American Paper Products Co., and the Richard L. Cawood Co.

Tully's Silver Anniversary

Fred G. Tully was tendered a dinner by G. S. Stoddard & Co., New York, pharmaceuticals, to mark the completion of twenty-five years as salesman for the company.

Haskell and Magnus Serve

Glenn Haskell, vice-president, U. S. Industrial Alcohol Co., and P. C. Magnus, president, Magnus, Mabee & Raynard, Inc., are among the members of the chemical, drug and paint division, Emergency Unemployment Relief Committee of the City of New York.

A. J. Norton Speaks

Arthur J. Norton, chemical director, General Plastics, Inc., North Tonawanda, N. Y., moulding compounds, addressed the technical division, Sherwin-Williams Co., Cleveland, November 4, on "Durez and Its Uses in the Paint and Varnish Field".

Chilson Expands

Francis Chilson, consulting production engineer, has organized an unusual group consulting service designed to assist smaller manufacturers with all raw material, purchasing, manufacturing, equipment and packaging problems. This service is made available to the members of the group at extremely moderate fees.

It has long been recognized in the drug and toilet goods trade that a service of this kind was badly needed. The progress of the smaller manufacturer is retarded and his costs are unnecessarily high because he cannot afford to employ high priced, well trained and widely experienced men, either in his laboratory or his factory; nor can he retain the services of consulting experts every time difficult problems arise. As a result he is constantly confronted with troublesome problems which sap his profits and restrict the growth of his business.

Elmo, Inc., Puritan Cosmetics, Inc., and Marinello, Inc., are among those firms which have already taken advantage of the facilities offered by this service.

John Powell Returns

John Powell, of John Powell & Co., Inc., New York, has returned from a trip through the middle west and reports improved business conditions in that section of the country.

La Combe Joins Benz

F. E. La Combe, formerly with the Lavo Co., soaps, has been named sales manager, Benz Products Co., Milwaukee, sanitary supplies.

Lowry, Director A. B. C.

Felix Lowry, vice-president in charge of sales and advertising, Colgate-Palmolive-Peet Co., has been elected a member of the board of directors, Audit Bureau of Circulations.

Hopkins Takes Dosch

J. L. Hopkins & Co., New York, has announced that G. J. Dosch, formerly with United Chemical & Drug Corp., has become associated with the company as sales manager, milling department. Thomas Sparks, formerly with McIlvaine Bros., has also become connected with the company as Philadelphia representative.

Why Be Timid?

A new manufacturer of low-priced perfume came into the market a few months ago, and walked away with the cream of the business.

The old line companies have been sitting up nights ever since, to find out how it was done.

As a matter of fact, it's very simple. The new man had an original package, an excellent perfume, and a *real knowledge of how to merchandise them.* Without cutting corners, he was nevertheless able to cut costs. He knows business and he knows his business.

Thus equipped, why be timid ?

The market is still open in many fields, for some manufacturer to step in and do big things. There are still a lot of dollars waiting to fall into the pocket of some enterprising makers of toilet preparations.

As a rule we do not originate merchandising plans, but we can be of considerable help nevertheless.

Our business is perfume oils. *We make and import the ingredients. We create odors that sell goods. If you would like to talk plans and products with us, we are ready at any time.*

van Ameringen-Haebler, Inc.

Manufacturers and Importers of

Aromatic Essentials

315 FOURTH AVENUE, NEW YORK

180 North Wacker Drive, Chicago 619 Clark Avenue, St. Louis 42 Wellington Street, E., Toronto

Factory, Elizabeth, N. J.

Companies

United Drug Sues

United Drug Co. is seeking an appeal to the Supreme Court of the United States upon the constitutionality of the Maine insecticide law of 1930. The law in question is one which prohibits dealings in insecticides manufactured in other states except under licenses which can be obtained only upon terms which, in the opinion of United Drug, violate the constitution of the United States. The ground for the appeal is that the Maine law is an unnecessary burden on interstate commerce which comply with the Federal insecticide act of 1910 and which are sold in the state in original unbroken packages.

H. H. Ayer Answers Suit

Harriet Hubbard Ayer, Inc., New York, filed answer, October 9, to complaint of Recamier Manufacturing Co., Inc., that city, which alleged violation of trade-mark rights. The answer filed by the Ayer company denies that the name or signature, "Harriet Hubbard Ayer" has ever been a part of trade-mark registered by Recamier Manufacturing Co. and predecessors; denies that trade-mark or any interest in name or signature, "Harriet Hubbard Ayer," was ever transferred by Mrs. Ayer to any one; states that name and signature were never used by Recamier Manufacturing Co. or predecessors; further states that Recamier Manufacturing Co. knew at all times of Harriet Hubbard Ayer, Inc., and of its use of name and signature as trade-mark, that for approximately twenty-four years made no protest regarding such use of the mark and that therefore waived, cancelled and abandoned any rights, even if they ever had any inrespect to such name and, or, signature.

Counter-claim filed by Harriet Hubbard Ayer, Inc., with answer alleged original registration of name and signature in 1908 and renewal in 1925; demanded an accounting of products sold by Recamier together with damages; asked an injunction restraining Recamier and its principles from use of name, "Harriet Hubbard Ayer," as a trade-mark.

Chemicolloid Agent

Chemicolloid Laboratories, Inc., New York, has announced the appointment of Schiller Engineering Co., Cleveland, as agents for Michigan, northern Ohio, and northern Indiana. The latter company is owned by E. H. Schiller, formerly in charge of the Cleveland office, J. H. Day Co.

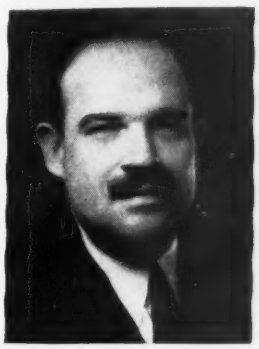
Terri Reopens Plant

Terri Cosmetics Corp., New York, has announced that it has reopened its factory at Providence, R. I.

Owens-Illinois Advances

Owens-Illinois Glass Co., Toledo, has announced several outstanding changes in general organization. By these changes, Harold Boeschenstein, formerly vice-president and general sales manager, has become vice-president and assistant general manager. F. J. Solon, formerly sales manager of the prescription, pharmaceutical and proprietary lines, succeeds him, becoming general sales manager. Smith L. Rairdon has been placed in charge of pharmaceutical and proprietary sales, while Stanley J. McGiveran has assumed charge of prescription sales.

Harold Boeschenstein



F. J. Solon

Metz Plant Moves

The packing plant of the H. A. Metz Laboratories (Drug, Inc., subsidiary) has been moved from Pacific street, Brooklyn, N. Y., to the property of the Bayer Company, Rensselaer, N. Y. Manufacturing operations of Metz products which were formerly carried on in the Brooklyn building, have for some time been carried on at the Newark, N. J. plant of the company. Goods formerly shipped from Newark to Brooklyn for packing will now be shipped from Newark to Rensselaer.

Warner Buys Voigt

William R. Warner & Co., New York, has purchased business and good will of Voigt & Co., Chattanooga, Tenn., manufacturer of ethical pharmaceutical specialties.

Pinaud Sues

Pinaud, Inc., New York, has brought suit in Federal Court against Pierre Dumonde, Inc., Chicago, and A. L. Greenfield, the latter company's New York representative. Suit is for alleged infringement of design patent No. 80,389 held by Pinaud on a container for cream, powder and the like having a lid with raised concentric circles.

Sales Builders Constructs

Sales Builders, Inc., Los Angeles, wholesale distributors of Max Factor cosmetics, is constructing a new office building and plant in that city. Louis E. Conrad is president.

Sodasan Moves

Sodasan Co., makers of "Sodasan," antacid-digestant, has announced its removal from New York to new offices and laboratory at 38 Green st., New London, Conn.

Illinois Cosmetic Moves

Illinois Cosmetic Co., Chicago, has moved to new quarters at 1500 South Western ave., that city.

Oyloff Distributors

Godefroy Manufacturing Co., St. Louis, has appointed Kimm-Libbey, Ltd., New York, eastern distributors for its product, "Oyloff," for the hair.

Progressive Drug Buys

Progressive Drug Co., New York, has acquired "Velogen" and "Interol," formerly properties of the Allied Drug & Chemical Co., that city.

Marion Products

Marion Products, Inc., Marion, Ohio, has been formed by the merger of American Toiletries Co., Grains of Wealth Co., and Van Scoy Chemical Co., all of Ohio, manufacturers of toilet goods, chemicals and extracts. O. W. Van Tress is president and W. C. Boyd, secretary and treasurer, of the new merger which was effected by cash purchase.

R. & H. Addition

Roessler & Hasslacher Chemical Co. has filed plans for a one-story brick and steel addition to its Niagara Falls plant to be equipped as a filter plant medium.

Squibb Story

E. R. Squibb & Sons is the subject of a feature article in the October issue of "World's Work," entitled "The Story of the House of Squibb," by William A. McGarry.

RELIABILITY . . .

YOU may have absolute confidence in placing your requirements for alcohol and allied chemicals with the Pennsylvania Sugar Company and Franco-American Chemical Works. The resources and facilities of these companies enable them to meet the ever-changing conditions in these markets year after year.

Alcohol (Pure and denatured all Formulae)	Acetates (*Amyl, butyl, ethyl*)	Plasticisers	Fusel Oil (*Crude and Refined*)	Cotton Solutions
	Butyrates	Propionates		Ethyl Chloride *Refrigeration and Ethylation*
	Leather dopes	Special Esters	Gum Solutions	

We shall be glad to send on request copies of our booklets — Alcohol for Industrial Purposes and Standardized Chemicals

Pennsylvania Sugar Company
Franco-American Chemical Works

SALES OFFICE

95 Wall Street — **A. K. Hamilton** — **New York, N. Y.**

Sales representatives and warehouse stocks in principal cities

Distillery — Philadelphia, Pa. — **Chemical Plant — Carlstadt, N. J.**

Shipley Massingham to Mutual Drug

Shipley Massingham Mutual, Inc., has been organized in Pittsburgh, with authorized capital of $500,000, to merge the interests of the Shipley-Massingham Drug Co., wholesalers, with the Mutual Drug Co., that city. Officers are president Sherman Massingham; vice-president, D. W. Crossan; treasurer, O. C. Cowles; secretary, T. W. Dunn. These officers with Frederick T. Roosa, of the Mutual Drug Co. of Cleveland are directors of the new corporation.

Synthetic Rubber

E. I. de Nemours & Co., Inc., Wilmington, has announced the development of a new synthetic rubber. The new synthetic material, "Duprene," is produced from acetylene, salt and water, and is said to have many commercially valuable qualities which will supplement the present uses of natural rubber. It is said to be much more resistant than natural rubber to the swelling action of gasoline, kerosene and other solvents notoriously harmful to rubber.

Carotin Produced

British Drug Houses, Ltd., London, has started production of carotin.

Synthetic Quinine

Professor Raab of the State Chemical Institute, Hamburg, Germany, has announced that he has produced artificial quinine compounds which are not only as effective as the natural quinine, but are expected to offer a number of new effects for medical and scientific use. He calls his synthesis "hydrochinin".

New Meat Flavor

Fritzsche Bros., Inc., New York, has announced a new product, "Viandarome," a definite chemical identity of strictly vegetable origin—not synthesized—and having a decided and distinctive flavor of meat. The product is offered in powder form and is said to be free from dilution with common salt, ammonium chloride and other impurities.

Greater Drug Exports

Sales abroad of American digestive preparations up to the end of August were 70 per cent. ahead of the first eight months of last year, increasing in value from $53,457 to $90,701. Laxative, purgative and cathartic medicinals also showed an increase of 13 per cent., rising from $605,919 to $688,500.

Gair Exhibit

Robert Gair Co., New York, conducted an exhibit on packaging trends and designs at the Advertising Club of New York during the first two weeks of November.

New Products

ALKA-SELTZER

Dr. Miles Medicine Co., Elkhart, Ind., "Nervine," has introduced a new product, "Alka-Seltzer," an effervescent tablet for relief of colds, headache, sour stomach, etc. Advertising in large cities, house-to-house work in other territories, and sampling to the retailer, are being used to promote sales of the new product.

BATHODORA

Schieffelin & Co., New York, has introduced "Bathodora" bath salts in a tall, slender, green and silver can.

LANCHERE

Marshall Field & Co., Chicago, is merchandising a new face powder, "Lanchere," packaged in a round, lavender and green

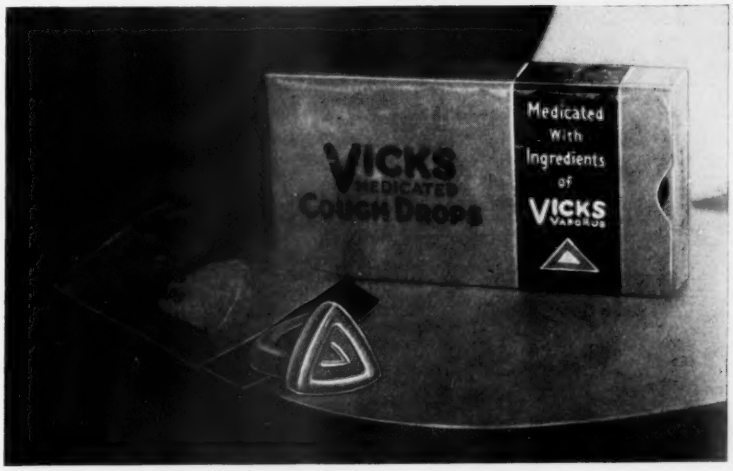
box, feature of which is a round hole in the bottom, over which a transparent cellulose tissue is pasted, thus permiting the powder to be seen without breaking the package.

NEW VICK ITEMS

Vick Chemical Co., Greensboro, N. C., "Vicks Vaporub," has introduced two new items, "Vicks Medicated Cough Drops," and "Vicks Nose and Throat Drops." National advertising and announcements with samples to retailers are being used to introduce the new products. The cough drops are said to contain the same ingredients as "Vicks Vaporub," and the nose and throat drops packaged with a dropper are for relieving head colds and catarrh.

NEW COTTON PACKAGE

Johnson & Johnson, New Brunswick, N. J., has introduced a new package and product known as "Red Cross Roller Package Cotton." A strip of cotton three inches wide and twelve feet long is tightly



CALCIUM GLUCONATE

Odorless and tasteless, this product is in increasing favor for use in Calcium therapy.

The microcrystalline structure of Röhm & Haas' Calcium Gluconate, C. P., permits of especially satisfactory and permanent suspensions and this same characteristic adapts it particularly for tableting or lozenge manufacture.

Röhm & Haas Co., Inc.
222 W. Washington Square
Philadelphia, Pa.

TESTED PERSIAN QUINCE SEED

POWCO BRAND
REG. U.S. PAT. OFF.

Neutral Powdered Soaps
Laboratory Controlled

You are primarily interested in buying Quince Seed that has an abundance of clear water white mucilage.

Quince Seed, unfortunately, lends itself to a great deal of exploitation by the use of misleading designations.

Although experience has taught us that Persian is the best type of Quince Seed we do not take this designation as synonymous with our standard of quality.

In order to offer you, as a buyer of Quince Seed, an intelligent basis upon which to purchase your requirements, all of our Quince Seed is tested for mucilaginous content and color.

Send for samples and compare

JOHN POWELL & CO., INC.
114 East 32nd Street New York, N. Y.

rolled and placed in an inner container at the top of which is a slot through which the cotton feeds. In this way the roll is kept inside the package and the cotton is drawn out in any desired quantity ready for use. This does away with excess paper and removing the cotton from the box, which was necessary in the old style package.

LISTERINE RUB

Lambert Pharmacal Co., St. Louis, has introduced a new item, "Listerine Rub." National advertising is planned as soon as distribution has been secured.

SYNODAL-METZ

H. A. Metz Laboratories, Inc., New York, has introduced a new ethical product, "Synodal," for the treatment of gastric and duodenal ulcers. Recommended for intravenous or intramuscular injection. Supplied in ampules.

New Phoenix Cap

Phoenix-Hermetic Co., Chicago, has introduced a new metal cap, the "S T Cap," especially for manufacturers of creams, lotions and other toilet preparations. It consists of two metal shells—a threaded inner shell and a straight-sided outer shell crimped together into an inseparable piece. It is said to combine all the advantages of a metal cap with beauty of appearance. It may be decorated in solid colors, brilliant coatings and crystal finishes, lithographed with trade mark or other design in any number of colors.

New Chicago Offices

Illinois Cosmetic Co., Chicago, and U. S. Industrial Alcohol Co., have leased new quarters in the Midland Warehouse, that city.

Move Offices

Od, Peacock, Sultan Co., St. Louis, pharmaceuticals has moved to new quarters at 4500 Parkview place, that city.

Defunct in Colorado

American Wholesale Drug Corp. Antitartar Chemical Co., Associated Physicians and Surgeons' Drug Co., Biel Chemical Co., Bio-Pharm-Chemical Co., Emsee Pharmcaal Co., Gloria Chemical Co., Gordon Dermal Laboratory, Inc.; Joon Laboratories, Inc.; Radium Compound and Cosmetic Co., Sun Drug Co., have been listed as defunct and no longer competent to do business in Colorado.

Colgate Premiums

Colgate-Palmolive-Peet Co. with its "Octagon" soap has become America's largest premium giver.

A. M. A. Accepts

SANDOPTAL, SANDOZ

Sandoptal, manufactured by Sandoz Chemical Works, Inc., isobutylallyl barbituric acid, differs from diethylbarbituric acid in that both of the ethyl groups of the latter are replaced, one by an iso-butyl group and the other by an allyl group. Action and uses same as those of barbital and its therapeutically useful derivatives.

DIPHTHERIA TOXIN, SQUIBB

Diphtheria Toxin for the Schick Test, Ready to Use without Dilution-Squibb, (N. N. R., 1931, p. 383), manufactured by E. R. Squibb & Sons, New York.

TYPHOID VACCINE, PARKE, DAVIS

Typhoid Vaccine (N. N. R., 1913, p. 376), manufactured by Parke, Davis & Co., Detroit.

BRAIN EXTRACT LEDERLE

Solution Brain Extract (N. N. R., 1931, p. 188), Thromboplastin Local-Lederle, manufactured by Lederle Laboratories, Inc., Pearl River, N. Y. An extract of cattle brain in physiological solution of sodium chloride, prepared according to the method of Hess.

DIPHTHERIA TOXOID, LEDERLE

Diphtheria Toxoid (N. N. R., 1931, p. 370), manufactured by Lederle Laboratories.

DEXTROSE GLASEPTIC, PARKE, DAVIS

Dextrose (N. N. R., 1931, p 248) Glaseptic Ampoules Solution Glucose, manufactured by Parke, Davis & Co.

POLLEN ANTIGENS, LEDERLE

Pollen Antigens-Lederle (N. N. R., 1931, p. 28), manufactured by Lederle Laboratories.

DIPHTHERIA TOXIN, LEDERLE

Diphtheria Toxin-Antitoxin Mixture (N. N. R., 1931, p. 361) manufactured by Lederle Laboratories.

NEOCINCHOPHEN, ABBOTT

Neocinchophen-Abbott (N. N. R., 1931, p. 123).

TUBERCULIN, MULFORD

Tuberculin-Koch (N. N. R., 1931, p. 364) manufactured by H. K. Mulford Co., Philadelphia.

SCARLET FEVER TOXIN, PARKE, DAVIS

Scarlet Fever Streptococcus Toxin (N. N. R., 1931, p. 369) manufactured by Parke, Davis & Co.

A. M. A. Rejects

SOLUTION NORMET, HIGH CHEM.

Solution Normet, manufactured by High Chemical Co., Philadelphia. Because it is an unscientific mixture marketed with unwarranted therapeutic claims.

OVESTRUMON, VITALAIT LAB.

Ovestrumon, manufactured by Vitalait Laboratory of California, Ltd. Because it is a preparation of indefinite composition which is marketed with unestablished and therefore unwarranted therapeutic claims and which does not present sufficient originality to be entitled to a proprietary name.

NAUSEATION, KRAUSE

Nauseatin, manufactured by Krause Medico Gesellschaft, Munich, Germany. Because they are unscientific mixtures marketed with unwarranted claims and under nondescriptive, therapeutically suggestive names and without definite state-

Horlick Package is Modernized

Coughs and Colds and Crude Drugs

At every yearly signal of the cough and cold season, a thousand new remedies bloom into being. But though many are called for the first time, few are chosen the second. Weak merchandising may account for sagging sales but feeble drugs, hence feeble, useless remedies more often tell the story. We modestly suggest that our Botanicals "grown for the market" will keep both your remedy and your sales-columns strong.

BAMBERGER BLOCH & LANDESMAN, Inc.

35 FRONT ST. NEW YORK, N.Y.

30 Klauzal Ucca - - - Budapest. Hungary.

Horehound

Elder Flowers

Linden

Althea

Roots and Leaves

Fresh, full-strength selections from our European plantations.

SAMPLES & QUOTATIONS

. . Also . .

CHAMOMILES . . . DANDELION ROOT . . . STRAMONIUM . . . BELLADONNA . . . LINDEN (Tillia) . . . PSYLLIUM . . . HENBANE . . . ALCANET ROOT . . . HOREHOUND . . . ALTHEA LEAVES AND ROOTS.

CAMPHOR SYNTHETIC

Chemically identical with natural camphor

MENTHOL SYNTHETIC

Fine natural odor--white crystals. For lower costs in mentholating mouth washes, tooth pastes, shaving creams, etc.

Thymol U. S. P.
Pure White Crystals

Terpin Hydrate
U. S. P. Powdered and Crystals

Terpineol C. P.

Urea C. P.

Urethane U. S. P.

Products of
Schering-Kahlbaum A. G.
Berlin

SCHERING CORPORATION 110 William Street New York, N. Y.

Sole Import and Sales Agents in the U. S. A. for the Manufacturers.

Stock Carried at New York

ments of composition on the labels or in advertising.

ALQUA WATER

Alqua Water (Shasta Water Co., San Francisco), Calso Water (Calso Co., San Francisco), Alka Water (Carl H. Shultz, Brooklyn, N. Y.) Because they are irrational proprietary mixtures, marketed with unwarranted and misleading therapeutic claims.

Associations

A. D. M. A. Meeting

American Drug Manufacturers Association will hold its next annual meeting at the Greenbrier Hotel, White Sulphur Springs, W. Va., April 18-21, 1932.

A. Ph. A. to Canada

American Pharmaceutical Association will hold its eightieth annual convention at the Hotel Royal York, Toronto, Canada, August 22-27, 1932. This will be a joint meeting with the Canadian Pharmaceutical Association.

Toiletries Research

The committee on research department, American Manufacturers of Toilet Articles, is making a special endeavor this year to have its research program deal directly with the practical problems of the perfume and cosmetic industry. In carrying out this policy, Dr. David Davidson, A.M.T.A. Research Fellow at Columbia University, is interviewing executives and chemists in the industry with regard to their technical problems. Dr. Davidson would appreciate receiving suggestions for perfume and cosmetic problems to be studied by the A. M. T. A. from members who are interested. Communications concerning these suggestions or requests for interviews may be addressed to Dr. David Davidson, Columbia University, N. Y.

N. Y. Board of Trade Elects

S. W. Fraser, Burroughs, Wellcome & Co.; Elmer H. Hessler, G. S. Stoddard & Co.; George Simon, Heyden Chemical Corp.; and H. G. Weicker, Dodge & Olcott Co. have been elected to the general board of the New York Board of Trade. Other members of the drug trade section who serve on the general board are Percy Magnus, Magnus, Mabee & Reynard; Edward Plaut, Lehn & Fink, Inc.; Charles Prickitt, Upjohn Co.

Toiletries Section

A cosmetic and toilet goods section of the New York Board of Trade might be formed in the near future as a protective group to combat threatened legislation at the next session of the New York State Legislature in which it will be proposed to include toilet goods in the class of articles taxed as luxuries. Application for the formation of such a section which will be similar to, but not associated with the present drug and chemical section, has been made to the Board of Trade by a group of the manufacturers interested.

New Member

C. J. Schellings & Co. has been elected a member of the drug and chemical section, New York Board of Trade.

Governmental

Milk of Magnesia Trade-Mark

Charles H. Phillips Chemical Co., New York, is not entitled to registration of the term, "Milk of Magnesia", as a trade-mark, according to a ruling of the United States Circuit Court of Appeals for the Second Circuit. The decision was rendered in answer to an appeal of the Phillips Company from an adverse decision by the United States District Court for the district of Connecticut in an action brought by McKesson & Robbins, Inc., Bridgeport, attacking the validity of the former company's claim to the trade-marks, "Milk of Magnesia" and "Leche-de-Magnesia". The appellate court, however, reversed the decision of the lower court on "Leche-de-Magnesia" and held that the Phillips company is entitled to that trade-mark. McKesson & Robbins, Inc., has since filed application for a rehearing on this latter phase of the decision and Charles H. Phillips Chemical Co. has filed an answer in defense of the adjudicated right.

It is understood that since the question of trade-mark rights on "Milk of Magnesia" has arisen, the Phillips company has converted its deposits in certain foreign countries into actual new trade-marks, thus clearly establishing a right to this trade-mark in these countries.

In the decision against the right of the Phillips Company to the mark, "Milk of Magnesia", the court pointed to the proof that the company did not have the exclusive use of the mark prior to the act of 1905 and to the fact that the company had made no effort prior to 1924 to stop the use of the mark by others. In this connection the Court said that the American Druggists Syndicate had sold in excess of 50,000 bottles of "Milk of Magnesia" in 1912 and that its sales had increased to more than 2,000,000 in 1923. He further mentioned sales of 450,000 pints of the product by E. R. Squibb & Sons between 1909 and 1916 and 4,000,000 pints between 1922 and 1928; sales by the H. K. Mulford Co., beginning in 1904 and increasing to 50,000 pints a year by 1926; sales by Nelson Baker & Co. prior to 1905 and in increasing quantities since that time to 20,000 gallons in 1929; sales by Frederick Stearns & Co. since 1910 and amounting to 20,000 gallons a year at the time of the trial; sales of more than 20,000 pints in 1905 by Parke, Davis & Co., whose sales have been, he said, 100,000 pints a year since 1912.

Commenting on this large business in "Milk of Magnesia," the Court said:—

An extensive, persistent, and adverse use by the public during the long interval, prior to the cancellation proceeding, is indisputably shown, while the extent of dependant's own use is little indicated. The failure of the defendant during a long period to assert or enforce its rights and its essential disregard of the trade-mark is proof of an intent to abandon. We hold that the complainant must prevail not only because the trade-mark, "Milk of Magnesia," was not in the actual and exclusive use of the defendant, or its predecessors, during the ten years prescribed by the statute, but also because the defendant abandoned the mark.

In ruling that the Phillips company is entitled to the trade-mark, "Leche-de-Magnesia," the court held that the right of registration of this mark stood on a different footing from that with respect to "Milk of Magnesia." The Court said:—

There is no proof whatever that this mark ("Leche-de-Magnesia") was not in actual and exclusive use as a trade-mark of the applicant or its predecessors for ten years preceding February 20, 1905. It

Two of Park & Tilford's Striking Ten Cent Line of Perfumes

ART TUBE COMPANY

IRVINGTON, N. J.

ART TUBES, strong and well made—are obtainable today at prices just as low—and even lower—than ordinary, skimpy tubes.

HUISKING

NAPHTHALENE

Contracts for 1932 delivery booked now may prove advantageous. We are well placed. Please inquire.

COD LIVER OIL

PEDER DEVOLD BRAND
(*Trade Mark Registered*)
Highest Grade Medicinal
Practically free of odor and taste.
Richest in Natural Vitamins.

VITAMINE BRAND
(*Trade Mark Registered*)
The Standard Brand for Poultry and Animal use.

Brucine Alkaloid and Sulfate	Quinine Sulfate and Bisulfate
Camphor	Santonine, U. S. P.
Citric Acid	Sal Ammoniac, Lump
Cocoa Butter, U.S.P.	Thymol
Lithol	Witch Hazel, N.F.
Menthol	Zinc Oxide Hubbucks

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also

816 First Ave., New York
24 Oregon Ave., Philadelphia
869 Folsom St., San Francisco
1220 W. Pico St., Los Angeles
826 Clark Ave., St. Louis

has, therefore, made at least a prima facie case as to this mark. It is no answer to say that it is descriptive, because the ten-year provision of the trade-mark act of 1905 enabled trade-marks for descriptive words which had acquired a secondary meaning to be registered. . . . The use of "Milk of Magnesia" during the ten-year period does not affect the mark, "Leche-de-Magnesia." It is true that, if the defendant was relying on a common law trade-mark which was invalid because it was a descriptive term, a translation of the English words into Spanish might not, upon the mere theory that it created a fanciful name, avoid the difficulty; but, the ten-year clause protects any name, whether descriptive or otherwise, if it was exclusively used by the applicant for the prescribed period.

Campbell Wants Law Changed

"The Food and Drug Administration recommends that the proviso to section 7, paragraph 1, in the case of drugs, be changed to include only drugs used for manufacturing purposes and be made applicable only to those substandard drugs which the pharmacopoeia or formulary may specify as suitable for manufacturing purposes. There is no evident reason why preparations of medicines (not crude drugs) should be sold under pharmacopoeial or formulary names, if they fail to meet the pharmacopoeial or formulary tests.

"The Food and Drug Administration believes that if a pharmacopoeial or formulary name is used in the labeling of a drug preparation, that preparation should meet, in all respects, the pharmacopoeia or formulary requirements. However, there is justification for traffic in certain substandard crude drugs where the product is to undergo a manufacturing process by means of which the finished article will meet all pharmacopoeial or formulary requirements."

Thus read the two concluding paragraphs of the report for the fiscal year 1931, submitted, November 9, by Walter G. Campbell, chief, Food and Drug Administration. Administrator Campbell also recommended other changes in the act, not of particular interest to drug manufacturers, such as increased penalties for violation, establishment of definition of food products, and enactment of the so-called "slack-fill bill".

Cullen Plans Projects

The winter of 1931-32 promises to be marked by extra activity on the part of the Food and Drug Administration against preparations offered as remedies for epilepsy and convulsions. Gall stones, liver disorders, stomach ulcers, gastritis, gastro-enteritis, and acidosis are also diseases, labeled claims for treatment of which, on medicinal preparations, are to be subjected to special scrutiny by Administration officials.

This was announced to Drug Markets by Dr. Frederick J. Cullen, Chief of Drug Control. He indicated that the campaign against the above mentioned classes of preparations would begin in the near future. The diseases referred to have been, for several months, listed among those "for which unwarranted claims have been noted", according to the Department announcement. However, the Food and Drug Administration apparently has not felt that it had the men or the money to make a very active campaign against alleged remedies for epilepsy and convulsions and for the certain diseases affecting the gall bladder, liver and stomach. The availability of certain additional funds for food and drug law enforcement, followed by the appointment of two more medical men to the staff of Drug Control, it appears, has altered the situation.

Officials of Drug Control believe there are many preparations offered the public that bear label claims that are unwarranted, with regard to convulsions and epilepsy, gall, liver and stomach disorders. They propose to clean up this field as well as they can. A number of manufacturers are not unlikely to find themselves called "upon the carpet" by the Department. Some of them may experience considerable difficulty, as a result of the Food and Drug Administration's policy of doing away with the old system of entering into stipulations with manufacturers, pending settlement of their difficulties with the Department.

Tooth Paste Patents Invalid

U. S. District Court of Delaware, held invalid two patents (1,222,144 and 1,225,362) granted to W. M. Ruthrauff (filer of Pepsodent patent) for dentifrices on the grounds that they lacked novelty and utility. Only new feature of patents was held to be patentee's theory of classification of teeth which was held to be unsound. Nothing was found in patents not fully disclosed in the Pepsodent patent (1,133,250 granted March 23, 1915, to W. M. Ruthrauff) except this theory of classification of teeth.

Vadsco Not Monopoly

The U. S. Federal Court of Appeals has reversed an order of the Federal Trade Commission directing V. Vivaudou, Inc., (now Vadsco Sales Corp.) cosmetic manufacturers, to divest itself of stock control of Alfred H. Smith Co. and Parfumerie Melba, Inc. The decision held that the combination of the three companies, controlling approximately 6 per cent. of the cosmetic market in the United States, was not a monopoly or a tendency toward monopoly. The Trade Commission's order was based on the ground that combination was a monopoly and contrary to public welfare.

New Package of Magnus, Mabee & Reynard Olive Oil

Helena Rubenstein Stopped

Federal Trade Commission issued, October 31, an order to Helena Rubinstein, Inc., New York, to cease resale price maintenance. Order directs the company to cease entering into contracts or understandings with dealers to maintain set prices as a condition of handling Rubinstein cosmetics.

Thayer Pharmacal Cited

Thayer Pharmacal Co., Chicago, has been cited for misrepresentation in the sale of its toilet preparations.

Ironized Yeast Cited

Ironized Yeast Co., Atlanta, has been cited by the Federal Trade Commission for deceptive advertising in connection with its product, "Ironized Yeast".

California Cosmetics

California Association of Cosmetic Manufacturers and Distributors has been organized in Hollywood, to protect interest of manufacturers in regard to recent amendments to the cosmetology law which place regulation of sale of cosmetics under direction of a board of five, all of whom must be licensed cosmetologists. Chairman of the new association is T. M. Finney, LaFinne, Ltd.; secretary, H. C. Balsley, Katherine A. MacDonald, Inc. Members of the executive committee are Adrian Awan, Hollywood Belcano Co.; B. Horsfall, Avocado Beauty Co.; K. D. Caldwell, Max Factor Co.; O. L. Mills, Kathleen Clifford, Ltd.

Ginger Jake Victims Unite

United Jamaica Ginger Paralysis Victims has been formed by Mack Hunter Partridge, 48, interior decorator of Oklahoma City, to fight the Federal Food and Drug Administration for alleged criminal negligence in enforcement of the Food and Drugs Act. The organization has

BLACK PSYLLIUM SEED
BLONDE PSYLLIUM SEED
KARAYA GUM

Direct shipments from point of origin in lots of one or more tons. Immediate deliveries from our New York stocks. Write or wire for offers.

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Stocks carried by the following distributors:

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Chicago, Ill.
Detroit Soda Products Co.,
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Arnold, Hoffman & Co.,
Providence, R. I. Philadelphia, Pa.
Thompson Hayward Chemical Company,
Kansas City, Mo. St. Louis, Mo.
Marble Nye Co.,
Boston, Mass. Worcester, Mass.
Innis, Speiden & Co., New York, N. Y.
Maryland Chemical Co., Baltimore, Md.
In Canada
St. Lawrence Trading Company, Ltd.
Montreal, Toronto and Vancouver

American Potash & Chem. Corp.
WOOLWORTH BUILDING NEW YORK CITY

"Standard of Quality Always"

PLYMOUTH
MEDICINAL WHITE OILS
Russian *Domestic*

COLD CREAM OILS
and
ALL RAW MATERIAL FOR TOILET CREAMS

STEARATES
ZINC ALUMINUM MAGNESIUM

Made Right *Priced Right*

M. W. PARSONS IMPORTS
AND
Plymouth Organic Laboratories
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some 30,000 members, each of whom suffered from drinking jamaica ginger containing poison, the phosphoric acid ester of tricresol.

Viscose Cap Ruling

Viscose bottle caps need not be individually marked with the country of origin, the Bureau of Customs has ruled.

It was stated that viscose bottle caps are usually imported in a moist state, and marking would therefore be impracticable. Not long ago the bureau ruled that gelatin bottle caps must be individually marked with country of origin.

Opium Traffic

The "Traffic in Opium and Other Dangerous Drugs" is the title of another publication which has just been issued by the League of Nations, being an analysis of the international trade in morphine, diacetylmorphine and cocaine for the years 1925-1929. This work is printed in three parts, and each part contains identical statements in both French and English. All three parts may be obtained from the League's American publication agent, the World Peace Foundation, Boston, Part I, cost $2; Part II, 60 cents; and Part III, 30 cents.

1932 Alcohol Production

Production of industrial alcohol in the United States during 1932 will be limited to approximately 85,000,000 wine gallons, or about the same as the authorized production in 1931, according to an oral announcement by Dr. James M. Doran, Commissioner of Industrial Alcohol.

The agreed amount of production for next year was based on the demand for the current year for which the last two months were extimated. It is no longer difficult to calculate the need, Dr. Doran explained, since under the voluntary agreement the Commissioner receives definite information as to the quantity that industry can legitimately use.

Crude Drug Detentions

Officials of the Federal Food and Drug Administration's eastern district examined 3,677 shipments, aggregating about 40,000,000 pounds, of crude drugs in the year which ended July 31, 1931, according to W. R. M. Wharton, chief of the district.

The lots included some 250 varieties and were inspected for conditions which might preclude their entry, under the Federal Food and Drugs Act, into this country. Two hundred and eighteen shipments, amounting to 1,271,367 pounds or 3 per cent. of the total quantity of drugs examined, were detained for violation of the law. Figures for quantities of shipments and detentions do not include licorice root and castor seed, inasmuch as only a small quantity of these products are used for medicinal purposes, says Mr. Wharton. In the previous year, the district examined approximately 61,000,000 pounds of crude drugs, detaining about 5,500,000 pounds, or 9 per cent.

The principal reasons for detentions were moldiness, worminess, and low potency in some drugs; excessive foreign matter in chamomile; high content of yellow styles in saffron; excessive ash and low alkaloid in stramonium; and in sandalwood detentions were made because non-U. S. Pharmacopoeia varieties were substituted.

Dye Census Stopped

United States Tariff Commission announced, October 14, that it has discontinued publication of its annual census of dyes and other synthetic organic chemicals. For fifteen years this publication has been one of the most complete statistical records in any industry, giving production, imports and exports of each of the many coal tar products and a large number of synthetic chemicals of other than coal tar origin. Many medicinal and aromatic chemicals were included in this annual report which for this reason was of particular importance and value to the drug and cosmetic industry.

Although various contributing factors are mentioned for discontinuing this service, the chief reason is said to be one of economy. The cost of the census is estimated at approximately $5,000.

Retail Outlets

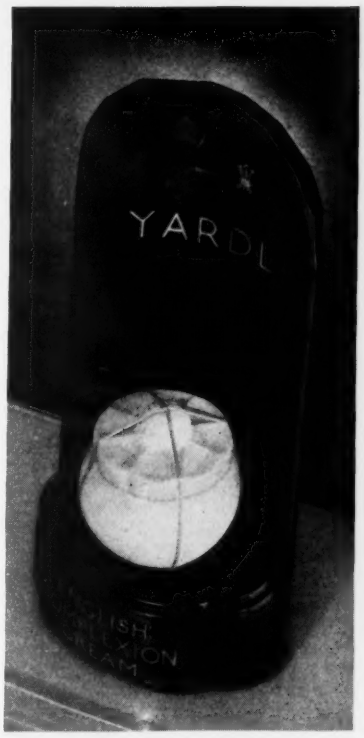
California Price Law

The California law permits California manufacturers, wholesalers and retailers to enter into contracts to maintain prices on branded goods. Manufacturers with plants and warehouses outside the state cannot make such contracts as they would conflict with Federal interstate commerce regulations. For each individual manufacturer to establish his own branch in California would be very expensive.

Undeterred by the heavy expense involved, A. H. Beardsley and C. S. Beardsley, respectively president and treasurer, Dr. Miles Medical Co., Elkhart, Ind., have announced that the company will establish a California subsidiary to test the practicability of price maintenance under the California law.

To do the same thing with a group of companies sharing the heavy burden of expense, Edward Plaut, president, Lehn & Fink, has advocated the formation of a cooperative company as an agency with sole selling rights in California for a number of manufacturers. His letter suggesting a measure of this sort was sent to the following manufacturers:

Bristol-Myers Co., Colgate-Palmolive Peet Co., Daggett & Ramsdell, Forhan Co., Inc., The Frostilla Co., Hinze Ambrosia, Iodent Chemical Co., The Andrew Jergens Co., Kolynos Co., Lambert Pharmacal Co., Mennen Co., Drug, Inc., Monroe Chemical Co., Pinaud, Inc., Bi-Sodol Co., Inc., Pepsodent Co., Pond's Extract Co., Stanco, Inc., John H. Woodbury, Inc., Zonite Products Corp., Sharp & Dohme, Western Co., Johnson & Johnson, Chamberlain Laboratories, Inc., R. L. Watkins Co., Kress & Owen Co., Northam Warren Corp., Merck & Co., Inc., Packer Manufacturing Co., the Barbasol Co.



Interesting Yardley Display

Pharmacist Ownership Upheld

The constitutionality of the New York state law requiring licenses for ownership of drug stores has been upheld by a state court at Syracuse, N. Y. The New York law classified stores into pharmacies, drug stores, and stores in which certain poisons and medicines may be sold and different qualifications for licenses are imposed on those classifications. The law was attacked on the grounds of class legislation but it was held that the classification was justified in the interests of public health.

Chain Store Taxes

Chain store tax laws of North Carolina and Mississippi have received the attention of the Supreme Court of the United States, during the past month. It sustained the validity of the former and sustained the decision of a Federal district court in Mississippi which issued a

temporary injunction against enforcement of the latter.

In Alabama, the state attorney general ruled that the Alabama chain stores tax law is constitutional.

Chain Store Report in December

The Chain Store Inquiry of the Federal Trade Commission will make a comprehensive report in December covering centrally owned chain stores. A report on one phase of the Commission's investigation, cooperative chain stores, has already been prepared and was made public early this summer.

The investigation is being made to determine the extent to which the chain store movement has tended to create a monopoly for concentration and control of the distribution of commodities; to reveal any evidence of unfair methods of competition or any advantages or disadvantages of chain store distribution compared with other types of distribution as shown by prices, costs, profits and margins; the quality of foods and services rendered by chain stores; whether or not quantity prices constitute a violation of the Federal Trade, Clayton or other antitrust acts; what legislation, if any, should be enacted with reference to such quantity prices, and how far a rapid increase in the chain store system of distribution is based on actual savings in cost of management and operation and how far upon quantity prices available only to chain store distributors.

Hy-Pure Meeting

Hy-Pure Druggists held their seventh annual convention at the Hotel Statler, Buffalo, October 14 and 15, and elected the following officers: president, E. G. Cook, Detroit; vice-president, John G. Pantzer, Jr., Indianapolis; secretary, Herman Mueller, Cincinnati; treasurer, Henry P. Mone, Columbus; and chairman of the board of directors, National Drug Sales Co., Charles Ehlers, Cincinnati. Two new guilds, one in St. Louis and one in Rochester, N. Y., were accepted as members, bringing the total to 1,400 retail druggists.

Economical-Cunningham Merger

Economical-Cunningham Drug Stores, Inc., Detroit, has been formed by the consolidation of the Economical and Cunningham Drug Companies. Corporation controls 50 former Economical stores and 13 Cunningham stores, with combined sales estimated at $7,000,000 annually and an authorized capitalization of $2,000,000 in class A 6 per cent. prior pref. stock; $1,000,000 in class B non-cumulative 6 per cent. stock, and 200,000 shares of no-par value common stock. Officers are Nate S. Shapero, president; A. R. Cunningham, chairman of the board; C. B. Larsen, vice-president; S. H. Rubiner, secretary; F. L. Prior, treasurer; and O. Ready, assistant treasurer.

Woods Buys Economical Stores

Woods Drugs, Inc., Birmingham, Ala., chain stores, has acquired the Economical Drug Stores, Memphis, whose six stores bring the total for the Woods chain up to thirty-three. Joseph R. Knoch is general manager.

Furst-McNess "Able"

In our September issue, page 267, we told of the appearance of a new factor in the Bourbon vanilla bean market—Furst-McNess Co., Freeport, Ill. Part of this news item was an announcement by that company which read in part as follows: "We carry a large and well assorted stock of Bourbons, and also a small quantity of Mexicans which, due to our buying facilities in the producing and marketing centers, we are able to sell at very competitive prices." Drug Markets' note read, "unable to sell at very competitive prices," an obvious but particularly aggravating error.

Psyllium and Other Seeds

In our article on this subject by Joseph F. Clevenger, on page 297, in the same (Sept.) issue, we made the mistake of calling the picture of Plantago Loeflingii, Lallemantia Royaleana, and vice versa. In other words, the captions under the two pictures should be reversed. Please bear this in mind when referring to them.

Professional

Christensen on U. S. P.

Dr. B. V. Christensen, Professor of Pharmacognosy and Pharmacology of the College of Pharmacy of the University of Florida, has been elected to membership on the Committee of Revision of the U. S. Pharmacopoeia, succeeding Dr. W. O. Richtmann who recently resigned, because of the pressure of his University duties.

La Wall Succeeds Richtmann

Professor Charles H. LaWall, dean of the Philadelphia College of Pharmacy and Science, has been elected chairman of the Sub-Committee on Volatile Oils, made vacant by the resignation of Dr. Richtmann.

Ergot Standard Status

Ergot alkaloid standards, a definition of darkening of the comb, and the standard strength of fluid extract ergot, were dealt with in three resolutions adopted by the combined contact committee of the American Pharmaceutical Manufacturers' Association and the American Drug Manufacturers' Association, of which J. P. Snyder, Norwich Pharmacal Co., is chairman.

Dr. E. Fullerton Cook, Dr. E. E. Nelson, and Dr. C. W. Edmonds, representing the U. S. P. Revision Committee, and Dr. F. S. Cullen, Dr. W. S. McCloskey and A. G. Murray of the Food and Drug Administration were present at the meeting. The resolutions adopted which are in effect recommendations of the contact committee to the revision committee are as follows:

"1. Moved that the Contact Committee suggest that for the purpose of ultimate revision of the monographs on Ergot to appear in the U.S.P. XI. revision, a standard consisting of a definite ergot aklaloid or definite mixture of ergot alkaloids is to be preferred; but for the purpose of any immediate interim revision, the standard continue to be a fluid extract prepared and kept in a definite manner and adjusted to a definite standard by a physiologic method, the standard reaction of which shall be defined as accurately as possible.

"2. Moved that for purposes of definition of darkening of the comb, a satisfactory darkening is one that shows no distinctly perceptible darkening of the anterior portion, a distinctly perceptible darkening of the middle portion and a progressively more intense darkening of the posterior third of the comb. Furthermore, that the present standard Fluid Extract No. 2160 is a satisfactory standard and that for purposes of comparison, doses of this standard be selected that will produce the darkening defined above.

"3. It is recommended that Fluid Extract Ergot when tested in comparison with Standard Fluid Extract Ergot shall show a strength (including all tolerances) equal to or greater than 80 per cent. of that shown by said Standard Fluid Extract. Owing to insufficient information on rate of deterioration and accuracy of assay we are not now prepared to recommend a definite upper limit."

Prescription Economics

National Conference on Prescription Economics was organized September 28, 1931, in Detroit, at the thirty-third annual meeting of the N. A. R. D. with Ambrose Hunsberger as president and Frank A. Delgado of the St. Louis College of Pharmacy as secretary. The purpose of the organization is to correlate and gather facts and findings of various prescription surveys and to act as a clearing house for such information.

Fellowship Awards

Philadelphia College of Pharmacy and Science has announced the award of the following fellowships: The Henry Leffmann fellowship to Dr. Maria A. Mesa for study in the stabilization and standardization of ergot, under the direction of Dr. E. Fullerton Cook; The fellowship for the

study of chemical and medicinal properties of capsicum to Linwood F. Tice; Fellowship for study of enteric coating of tablets and capsules, made possible through cooperation of Eli Lilly & Co., to Allen F. Peters; The Henry Leffmann fellowship to Ruth E. Miller for studies on the antiseptic properties of the volatile oils; The Fellowship award from Wm. H. Gano to Elsie M. Klenke for studies of podophyllum.

McKesson Scholarship Award

Coleman Henricks, H. J. Wrede Drug Co., Los Angeles, has been awarded the McKesson-Western Wholesale Drug Company's scholarship, for the College of Pharmacy, University of Southern California.

Advertising

Less Advertising

Expenditures for drugs and toiletries advertising in national magazines declined in October as compared with October a year ago, but advertising in national farm magazines registered a substantial increase and radio broadcast advertising over national networks, the September figures for which have just become available, showed a very large gain. Although the loss in national magazines from $2,831,776 to $2,665,112 was 5.9 per cent., this decline compares favorably with the loss of 12.4 per cent. in September as compared with the previous September. The gain in farm magazines was from $48,902 during October a year ago to $70,197, or 43.5 per cent., according to Dorrance, Sullivan & Co., New York. The total for both forms of advertising was $2,735,309, a reduction of 5.1 per cent. from the October, 1930 figure of $2,880,678. Beauty preparations and toilet goods accounted for $1,990,054 or 74.7 per cent. of the total in national magazines, and medical and proprietary items accounted for the remaining $675,58, or 25.3 per cent.

During September the industry spent $2,803,019 for all types of national advertising, a loss of 4.3 per cent. from the September, 1930 total of $2,928,853. The September expenditure for radio broadcast advertising over national networks was $485,174, a gain of 73.9 per cent. over the same month in 1930, when $278,950 was spent. Total radio advertising for the drug and toiletries industry during the first three quarters of 1931 reached $4,063,534, an increase of 82.9 per cent. over the like period in 1930, when $2,221,513 was the figure. This nine-month period witnessed the expenditure of $30,107,515 for all types of national advertising, an increase of 6.7 per cent. over the $28,213,018 expended during the first nine months of 1930. Expenditures in national magazines (except farm) during the first ten months of 1931 for drugs and toiletries totalled $28,300,741, a loss of 3.6 per cent. from the 1930 figure of $29,369,778, and the amount spent in national farm magazines was $508,549, a gain of 1.2 per cent. over $502,405 spent in 1930.

Selected Advertisements

The drug and toilet goods industry was responsible for 15 out of the 47 advertisements picked by the Art Directors Club of New York for exhibition at the New York Art Center as outstanding. They were divided as follows: Parke, Davis & Co. (2) "The fatal kiss" and "A murder mystery"; Elizabeth Arden, "Lipsticks of the ensemble"; Lambert Pharmacal Co., "Nobody paid me $1,000"; Bristol-Myers Co. (2) "Massage Ipana on those lazy, tender gums" and "A star of the stage and screen discovers P. T. B."; Guerlain, "Elegance is the lord of moods"; Frances Ingram, "Your six stars are my lucky stars"; Pinaud, Inc., (2) "Now—simplified for practical daily use at last" and "Six very special bottles"; Andrew Jergens Co., "Hands can be so thrilling"; Sharp & Dohme, "Mother and baby doing well"; Pond's Extract Co. (3) "Aristocratic women owe the beauty, etc.", "Princesses, duchesses, etc." and "Round the world thrills".

Hopper on Air

Edna Wallace Hopper, Inc., Chicago, Affiliated Products subsidiary, will broadcast each Sunday night over the Columbia network. The program is Hopper Sunday Varieties, Miss Hopper is master of ceremonies, and the addition of this program is said to make Affiliated Products one of the largest users of radio advertising.

Ipana in Australia

Bristol-Myers Co., Ltd., Australia, has started a newspaper campaign in Melbourne on "Ipana" toothpaste. This is the first time that "Ipana" has been advertised in Australia.

Salicon Campaign

K. A. Hughes Co., Boston, "Salicon", has started a new advertising campaign on its product which is recommended for relief of neuralgia and headaches. Five national magazines and radio will be used, replacing a newspaper schedule.

La Gerardine Loans Winchell

J. Roy Allen, president, La Geradine, Inc., New York, has stated that Walter Winchell is the exclusive property of his company, and that his appearance on the Lucky Strike program of the American Tobacco Co. is only in the nature of a loan. The columnist appears regularly each Tuesday night on the La Gerardine program over the Columbia Broadcasting System.

A. D. A. to Advertise

American Dental Association has created an educational publicity committee to pass upon advertising of various local groups of dentists. This recognition of co-operative ethical advertising is the first approval of advertising of any sort for dentists.

Bristol Speaks

Lee H. Bristol, vice-president, Bristol-Myers, Inc., addressed the class in National Advertising in Newspapers, conducted by the New York Times, November 4, on "How to Advertise a Low Priced Product". He developed eleven points which he said were essential steps taken in preparation for advertising a product, preliminary to the opening of the campaign. These are product, market, trend, price, sales policy, copy idea, media, budgeting, trading area, testing and balance.

Schmitz Joins Screenland

Val A. Schmitz, formerly general advertising director and member of the executive staff, Stanco, Inc., and its affiliated organization, Daggett & Ramsdell, New York, has been elected vice-president, Screenland Magazine, Inc.

Account Changes

Ivo-San Laboratories, Cleveland, chemical products, to Campbell-Sanford Adv. Co., that city.

Lesquendieu, Inc., New York, cosmetics, to United States Advertising Corp., that city.

Perfumes, Inc., Philadelphia, to Hetherington Watson Co., that city.

Thomas Leeming & Co., Inc., New York, "R-Tex," to Street & Finney, Inc., New York.

Sheba Co., Los Angeles, cosmetics, to Lockwood-Shackelford Co., that city.

Bayer Co., Inc., New York, aspirin and drugs, radio advertising to Blackett-Sample-Hummert, Inc., Chicago.

Chemicals & Drugs Inc., Chicago, "Vitalex," to William H. Rankin, that city.

Cedaflaxe, Inc., Brooklyn, N. Y., insecticides, to Bobart Advertising, New York.

Bivaporite, New York, inhalant, to the same.

Norwich Pharmacal Co., Norwich, N. Y., "Unguentine," to Lawrence C. Gumbinner Advertising Agency, New York.

Pompeian Company, Inc., Elmira, N. Y., to N. W. Ayer & Sons, Inc., New York.

CREOSOTE
CREOSOTE CARBONATE
GUAIACOL
CALCIUM GUAIACOL SULPHONATE
POTASSIUM GUAIACOL SULPHONATE

Acid Salicylic	Formaldehyde	Benzaldehyde
Acetyl Salicylic Acid	Para Formaldehyde	Benzyl Chloride
Sodium Salicylate	Hexamethylene-tetramine	Bromides
Methyl Salicylate	Benzoate of Soda	Glycerophosphates
Minor Salicylates	Benzoic Acid	Silver Salts

HEYDEN CHEMICAL CORPORATION

50 UNION SQUARE NEW YORK

Chicago Branch:
180 N. Wacker Drive

Factories:
Garfield, N. J. Perth Amboy, N. J.

Johnson & Johnson, New Brunswick, N. J., Red Cross Products Division, to Frank Presbrey Co., New York.

Produits Pierre, Inc., New York, cosmetics, to Carter Advertising Agency, Inc., that city.

Winson & Horn, Chicago, deodorant, to M. Glen Miller, that city.

Black Flag Co., Baltimore, insect powder, to Batten, Barton, Durstine & Osborn, Inc., New York.

Merck & Co., Rahway, N. J., iodine suspensoid and iodine vermicide, to Campbell-Sanford Adv. Co., Cleveland.

Pacific Chemical Co., Los Angeles, household chemical, to Leichter Co., that city.

Financial

Drug Stocks at New Low

Prices of common stocks of drugs and cosmetics companies dropped to a new low for the year in the week ending October 7, according to the index of the Standard Statistics Co., New York. Prices advanced substantially, however, during the month, with the drugs and cosmetics companies making a relatively better showing than the general industrial list. Detailed prices covering both indexes, follow:

1926 Average equals 100

	Drugs and Cosmetics	*337 Industrials*
Oct. 7	86.2	62.3
14	88.7	62.9
21	101.1	69.0
28	95.4	64.9
Nov. 4	98.3	69.7
1931 High	133.8	114.7
Low	86.2	61.6
1930 High	174.7	174.1
Low	115.8	98.2

American Solvents Default

A protective committee has been formed to act in the interests of holders of American Solvents & Chemical Corp. of Maryland 6½ per cent ten-year sinking fund gold debentures. General Industrial Alcohol Corp. convertible 6½ per cent. sinking fund debentures and Rossville Commercial Alcohol Corp. twenty-year sinking fund six per cent. convertible debentures.

All debentures are asked for deposit by the committee with the City Bank Farmers Trust Company, which has been named depositary. American Solvents & Chemical Corp. of Delaware, which has assumed the three issues of debentures, has defaulted in payment of interest coupons maturing last September 15, on American Solvents of Maryland debentures, and on November 1 interest payment on General Industrial Alcohol debentures, and it is expected that default will be made in the interest payment due January 1, 1932, on Rossville Commercial Alcohol debentures, it was announced.

Approximately $6,650,000 principal amount in the aggregate of the three issues of debentures is outstanding.

The committee's letter to debenture holders states in part:

"Current operations, including the completing of existing forward commitments, are resulting in operating losses and are depleting the corporation's working capital. This situation is the result of a combination of circumstances, including an unusual competitive condition, a substantial overproduction in the industry, a mild winter which reduced the amount of alcohol used as an anti-freeze solution in automobile radiators, and the use of synthetic alcohol and substitutes for alcohol in the anti-freeze field as well as other fields of use. In view of the financial condition of the corporation and the defaults in interest which have taken place and the other default which is anticipated, it is essential that holders of the three issues of debentures unite for their protection."

Good-Will Value

Colgate-Palmolive-Peet Co. and Eastman Kodak Co. set no value upon goodwill, patents, etc. in their 1930 annual reports. Commercial Solvents Corp., Coty, Inc., Helena Rubinstein, Inc., Lambert Co., McKesson & Robbins, Inc., Mead Johnson & Co., and Owens-Illinois Glass Co., set a value of $1 on patents, good-will, etc., in 1930. On the other extreme, according to a tabulation in Printers' Ink, the Standard Oil Co. of N. J. valued its good-will, patents, etc., at $47,322,175.89 and Drug, Inc., its at $42,323,703.33. Some of the other valuations set upon this intangible item were: Allied Chemical & Dye Corp., $21,305,942.61; Anchor Cap Corp., $5,300,709.78; Armstrong Cork Co., $624,772.31; Coca-Cola Co., $23,116,807.57; E. I. du Pont de Nemours & Co., $27,698,338.20; Lehn & Fink Products Co., $7,968,539.95; Northam Warren Corp., $537,589.79; Noxzema Chemical Co., $150,000.00; Parke, Davis & Co., $10,500,000.00; and Zonite Products Corp., $12,240,643.83.

Vivadou Capital

V. Vivadou of Canada, Ltd., has reduced capital from $250,000 to $5,000 by cancelling capital which has been lost or is unrepresented by available assets to the extent of $98 per share upon each of the shares issued and now outstanding, and by reducing the nominal value of all shares of the company's capital from $100 to $2 a share.

Ganna Walska Bankrupt

Ganna Walska Perfumes, Inc., New York, is the subject of a petition in bankruptcy filed by Michael Fenold, $422; Ernest Sondheim, $60; and Emile D. Gutcheon, $170.

Drug, Inc. Dividend

Drug Inc. has declared regular quarterly dividend of one dollar per share, payable December 1, to stockholders of record November 16.

Earnings

AFFILIATED PRODUCTS

Affiliated Products, Inc., and subsidiaries reports for eight months ended Aug. 31: Net income after interest, depreciation, Federal taxes and other charges, $849,117, equal to $2.21 a share on capital stock.

AMER. COMM. ALCOHOL

American Commercial Alcohol Corp. has proposed a reduction in capital represented by issued common stock from $8,769,697.42 to $3,894,950, and a change in authorized common stock from 750,000 shares of no par value into the same number of shares par value $10. The credit arising from the change in capital will be transferred to surplus.

ANCHOR CAP & CLOSURE

Anchor Cap Corp. reports for nine months ended Sept. 30: Net profit after depreciation, Federal taxes and other charges, $719,395, equal after preferred dividends to $2.44 a share on the common stock, compared with $871,636, or $3.10 a share, in the first nine months of 1930. Three months: Net profit, $271,947, or 95 cents a share, compared with $255,154, or 88 cents a share, in the preceding quarter, and $296,501, or $1.06 a share, in the third quarter last year.

LAMBERT CO.

For nine months ended September 30, the Lambert Co. reported a net income of $5,361,317 after taxes. Net was equal to $7.16 a share on the capital stock and compared with $5,668,471, or $7.56 a share in corresponding period of last year. For third quarter the net was $1,788,787, or $2.39 a share on 748,996 capital shares, comparing with $1,462,222, or $1.95 a share, in the preceding quarter and with $1,904,121, or $2.54 a share, in the third quarter of 1930.

MONSANTO CHEMICAL

Monsanto Chemical Works reports for three months ended Sept. 30: Consolidated net profit, after charges and Federal taxes, $361,720, equal to 84 cents a share, on the outstanding stock, compared with preceding quarter and $173,515, or 41 cents a share in the third quarter last year. Nine months: Net profit, $1,033,174, or $2.40 a share, compared with $795,912, or $1.91 a share, in the first nine months of 1930.

SHARP & DOHME

Sharp & Dohme, Inc., reported a net income of $763,509 for the first nine months of 1931, which was equal to 21 cents per share on the common stock after preference dividend requirements and compared with $964,364, or 46 cents per common share, for the corresponding period of last year. Net for the third quarter was $208,674, as against $350,038 for the third quarter of 1930.

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BARBITAL

QUININE and SALTS

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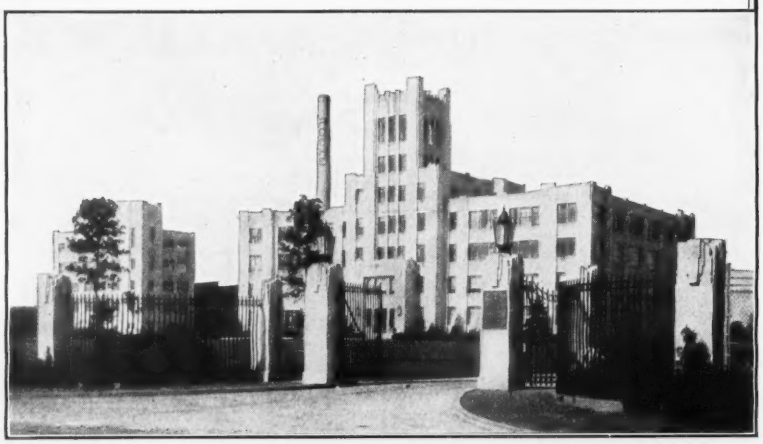

Hoffmann-LaRoche, Inc.
Makers of Medicines of Rare Quality
NUTLEY . . . . . NEW JERSEY

New Incorporations

American Beauty Nail Polish Co., New York City, cosmetics—A. Kahn, 225 Broadway, $20,000.

Anna Osillag, New York City, medicines—Lee, Swan & Donoghue, 7 Dey St., New York, $5,000.

Berkshire Laboratories, New York City, chemicals—A. T. Sapinsley, 521 Fifth Ave., $40,000 class A, 100 shares B.

The George H. Conn Co., Wilmington, Del., extracts, spices, toiletries—Corp. Service Co., 500 shares common.

Cryoil Products Corp., Buffalo, N. Y., cosmetics—Falk, Phillips, Twelvetrees & Falk, Buffalo, $20,000.

Dr. Mallas's Sweet-Air Products, Inc., Newark, N. J., drugs and chemicals—Joseph Bohrer, Newark, 1,250 shares common.

Drug Merchandising Co., Hoboken, N. J., deal in drugs—S. J. Davidson, Hoboken, $100,000.

Feminine Necessities, New York City, antiseptics—L. Krause, 198 Broadway, 180 shares common.

French Cosmetic Manufacturing Co., New York City—G. C. Holton, 17 John St., $10,000.

New York Von Co., Bronx, N. Y., medicinal tablets—Prentice-Hall, 20 Exchange Place, 50 shares common.

Old Dominion Drug Co., Washington, D. C., medical products—Prentice Hall, Inc., of Delaware, Dover, Del., $150,000.

Permalac Co., Buffalo, N. Y., chemicals—M. B. Morrison, Buffalo, 200 shares common.

Scientific Herb Institute, New York City, chemists—J. M. Tetjen, 271 Madison Ave., $20,000.

Sea-Tone Co., Pittsburgh, Pa., chemicals—American Cuaranty and Trust Co., $50,000.

Spraline Chemical Products Co., Wilmington, Del., chemicals, drugs—Corporation Trust Co., $25,000; 850 shares common.

Standard Aromatics, Brooklyn, N. Y., extracts—Slayton & Jackson, 56 Beaver st., New York City, 200 shares common.

Tanlight, Brooklyn, N. Y., cosmetics—M. M. Eisenberg, 16 Court St., Brooklyn, $20,000.

Vita-Lax Corp., Long Beach, New York, medicines, chemicals—A. J. Rosner, 678 Lexington Ave., New York, 100 shares common.

Von Wertaur Laboratories, Ltd., New York City, cosmetics—J. J. Silver, 551 Fifth Ave., $20,000.

Obituaries

George M. Eno

George M. Eno, former resident director of the Grasselli Chemical Co., Cleveland, and chairman of the company's eastern sales committee from 1919 to 1928, died at his home in Brooklyn, N. Y., October 11, aged 58.

William A. Roper

William H. Roper, treasurer, Kress & Owen Co., New York, proprietary medicines, died at his home in Richmond Hill, N. Y., October 12, aged 65. He had been associated with the company for thirty-three years.

Wm. F. Schnake

William Frederick Schnake, chief buyer, John D. Parke Co., Cincinnati, wholesale druggists, died at his home in Newport, Ky., October 22, aged 67.

Wm. K. Pelzer

William K. Pelzer, vice-president, Durr Drug Co., Montgomery, Ala., died recently at his home in that city at the age of 74.

Bath Cosmetics

(*Continued from page 461*)

added and kneaded into a paste with ether. Approximately 1 part of gum benzoin is mixed with 30 parts of ether and used for the above purpose. Mixture can be pressed into tablets which are stable due to the starch contained in them.

An effervescent pine needle bath salt preparation is made as follows: 300 parts of sodium bicarbonate, 275 parts of pulverized sodium bisulphate, 12 parts silver fir oil. Uranine is added until color is yellow. Tablets may be pressed from this mixture.

Bath salts, which evolve oxygen, are generally made with the aid of sodium perborate. A catalyst must be used in making the preparation. Thus for 1,000 parts of sodium perborate, there are required 1.4 parts of manganese dioxide or 6.7 parts by weight of cobalt carbonate, or 40 parts of gypsum or 26.7 parts of magnesium fluoride.

An effective bath salt of this type contains 300 parts of sodium perborate and a catalyst composed of 6 parts of manganese sulphate and 9 parts of potassium bitartrate. Another new preparation of this type calls for 3 parts of sodium perborate, 4 parts of manganese sulphate, 11 parts of sodium tartrate. Pressed residues from sweet and bitter almonds can be used to good advantages as catalysts. These residues may be mixed with the dry oxygenated salts. They possess the additional property of creating a lather when the composition is dissolved in water.

Another preparation is made from 400 parts of pulverized sodium biborate, 200 parts of sodium sulphate, 300 parts of sodium bicarbonate, 225 parts of tartaric acid, 50 parts of lactose, 25 parts of talc and 15 parts of oleum pinus silvertris and oleum pinus pumilio. Ingredients are mixed 2 or 3 times and passed through a fine seive, and then the coloring matter, for example fluorescein, is added. Addition of talc and milk sugar is necessary to be able to prepare tablets possessing a certain strength and stability.

It was mentioned earlier in this article that the use of herbs for the manufacture of bathing preparations gives excellent results. The herb extract may be made from a number of different botanicals, such as peppermint leaves, sage leaves, rosemary leaves, thyme and chamomille, which may be used in the proportion of 100 parts each. The botanicals must be used free from dust and are treated with 250 parts of 90% alcohol.

Production of this preparation is simpler and less troublesome, if a pine needle milk is prepared for direct use. The first step in the process is to prepare a 5% solution of 80% soda soap in 95% alcohol. Five parts of the finest pulverized white gum tragacanth are triturated with 100 parts of soap solution. Then 45 parts of pine needle oil and 5 parts of juniper oil dissolved in 125 parts of 95% alcohol are mixed with paste. Thereafter 550 parts of water at 30° C. are added and mixture is agitated for long time. A thick emulsion is formed, resembling a cod liver oil emulsion. This emulsion is ready for use and can be added directly to the bath. Astringent substances such as oak bark extract may be added to the emulsion, but this must be done during the manufacturing process.

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(REGD.)

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Official in the French Codex

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TO PROTECT YOURSELF AND US LOOK FOR THE

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SEAL ON EVERY TIN

Pronounced Therapeutically Equal to Oil of Santalum Album and Physiologically Superior.

LIMITS OF ANALYSIS:

Sp. Gr. @ 15.5°	0.968 to 0.975
Opt. Rotation $_{AD}$	-4° to -16°
Alcohol as Santalol	90% to 95%
Solubility in 70% Al.	1 in 3 to 1 in 6 Vols.

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PRODUCTS DEPARTMENT

CALIFORNIA FRUIT GROWERS EXCHANGE

ONTARIO, CALIFORNIA

PRODUCING PLANTS

THE EXCHANGE ORANGE PRODUCTS CO.
ONTARIO, CALIFORNIA

EXCHANGE LEMON PRODUCTS CO.
CORONA, CALIFORNIA

Raw Materials

Alcohol Points Higher

The advent of cold weather has resulted in a decided improvement in the amount of denatured alcohol going forward to the consuming trade. Shipments of number five alcohol for anti-freeze purposes have kept distillers busy and have had the tendency to strengthen their position materially. These shipments, however, are mostly against contracts previously written at low levels and show very little or no profit to the distillers.

Alcohol is of especial interest at this time as it is generally expected that the new price schedules for the coming year will be announced shortly, probably around the first of December. The distillers enter this period of price adjustment in a basically strong position. It must be taken into consideration that during the past two years the distillers have been losing money. Throughout the greater part of 1930 alcohol was being distilled from high priced molasses and in 1931 a severe price war broke out and the greater portion of the alcohol business was booked at such low prices that most of the producers operated at a loss. This condition must undoubtedly be corrected and in some quarters higher schedules for 1932 are looked for.

There are other factors in the market, however, that feel that a revision upward would not be drastic. Competition offered by synthetic methanol and glycerin for the anti-freeze market has been increasing and must be taken into consideration. The dominant factor, however, is the cost of raw material which is now quoted at 4c per gallon and it is generally expected that a price approximating this will prevail when the new contract season arrives. The new crop of molasses comes in about the early part of February, and prospects at present appear favorable. The low cost of raw material would make it possible for the distillers to operate at a profit at prices only slightly higher than now prevail.

Denatured alcohol number five, around which price schedules are usually based, is today selling at 28c per gallon in drum carlots, with a uniform differential prevailing for lesser shipments. The carload price is obtained by sellers almost without exception, although it is reported that the differential in smaller lots is not always strictly adhered to. An increase, if it does come, would probably be in the nature of several cents per gallon, probably placing number five at around 30c per gallon in drum carlots.

As regards contracts for the new year, it is generally reported that consumers would be acting to their own disadvantage should they force distillers to close with them at this time. It is pointed out that it would be far better for them to wait until the new molasses crop is available some time in February when the augmented supplies of raw material would work to their advantage. Should the contract position be forced, however, distillers would probably not offer contracts for a greater period than 90 days instead of the usual year around proposition. Contracts now on file in general expire January 1st.

In accordance with reports from Washington production of alcohol for 1932 has been set at 85,000,000 wine gallons. This quota will be prorated among the manufacturers according to their sales requirements. This allotment is the same as last year and is in accordance with the policy of the government in curtailing output to the end that diversion may be reduced if not entirely eliminated by confining production to a figure as close as possible to the known legitimate needs of industry.

Cod Liver Oil Declines

The decline in the price of cod liver oil that set in about a month ago continues. The spot market has again been reduced to the basis of from $25.50 to $26 per barrel. It is reported that a few outside brands are being offered at slightly below these figures.

The demand so far this year has been rather disappointing as it was generally expected that by this time the weather would be such as to stimulate consumer request for goods. It is generally expected, however, that the weakness in this commodity is only temporary due to the reduced output this year.

Imports of cod liver oil into the United States during the eight months period ended August amounted to 1,114,900 gallons valued at $852,000, as compared with 2,005,000 gallons valued at $1,584,000 in the corresponding period of 1930.

New Low for Glycerine

Chemically pure glycerin has declined ¼c per pound on spot and is now offered at 11¼c per pound.

There was an attempt during the past month to put the price of crude up with the idea in mind of attracting some buyers into the market. On October 22 crude glycerin was offered abroad at 4c c. i. f. and on November 2 the market went to 4½c. Buyers, however, failed to respond and the market eased off.

The trouble seems to be that there is too much glycerin available. Bulk sales to the soap trade have been good and the volume of business with the anti-freeze trade has increased in satisfactory proportions, but production still continues ahead of consumption with consequent unsettlement.

A considerable surplus of glycerin remains from last winter as a result of the mild weather that generally prevailed and this must be worked off before any improvement in price from the refiners point of view can be expected. It is reported that the advent of cold weather will build up pharmaceutical sales which will do considerable toward correcting the oversupplied position of the market.

Menthol Weakens Further

Menthol shows a further decline this month being offered on spot at from $3.45 to $3.75 per pound. This represents a reduction in price of approximately 20c per pound in case lots during the past month and carries out our prediction of last month that the spot market would gradually decline to a basis more nearly in line with the price at which menthol was sold for future delivery. At this writing the new level established in Japan seems to be holding.

Although the steamer Kinai Maru arrived in port with a substantial amount of material on board the spot market is not oversupplied as a large portion of this was for the account of one of the large consumers here. Importers are able to point to a fair demand but on the whole the movement is not as good as expected for this time of year. There is likelihood that December will show a further recession in price, although it is reported that $3.25 would represent a price from which further recessions would not be likely, unless, of course, conditions in the primary should again become much easier.

There is a limited amount of German menthol in the market at $3.35 per pound.

Trade Commissioner Richard P. Hendren, Batavia, reports that menthol of a high degree of purity and permanent quality has been synthesized from Java citronella oil.

Cream of Tartar Lower

Low raw material costs has resulted in a further decline in the price of cream of tartar. Leading producers have reduced their price ½c per pound. The spot market is now 21¼c per pound in lots of five barrels or over with less than five barrel lots offered at 21½c per pound.

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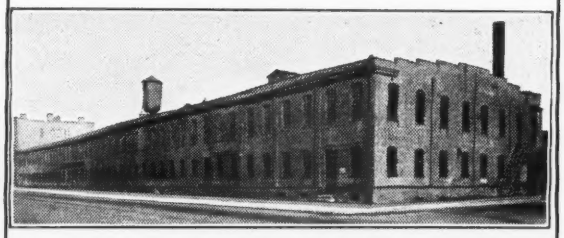

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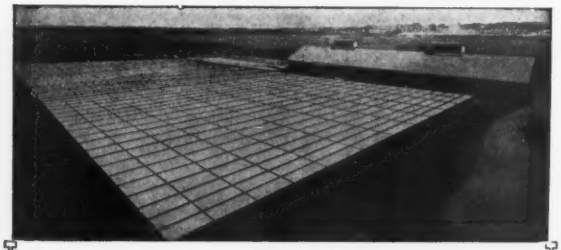

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Keen competition has also worked the market to lower levels.

Mercury Continues Down

Mercury continues the downward trend that was established many months ago and is now being offered on spot at from $73 to $74 per flask. In January of this year mercury was selling at approximately $105 per flask and from that time on the decline has been steady and practically unbroken. The present spot market represents a price $32 below the high for this year.

The weakness in this commodity is attributed to competitive conditions caused by a decline in consumption and the fact that the mines in this country are poorly financed and must move their stocks promptly, often in the face of a very weak market. The fact that Europe has such a large supply of mercury on hand, estimated to run as high as 175,000 flasks, casts a dark shadow over the producers here and further weakens the position of the mines.

The position abroad shows no change from that reported in our last issue. The monopoly has shown no further tendency to reduce their price but their topheavy position makes it more than likely that some corrective measures must sooner or later be taken. The situation is aggravated by the unwillingness on the part of either the Spandiards or Italians to reduce production, with the result that in spite of the tremendous stocks on hand, production still continues in excess of consumption so that more and more mercury is being accumulated. In some quarters it is being assumed that the end of the monopoly is in sight and that a wide open fight to sell mercury is in sight.

Mercurials Priced Lower

Owing to the continued decline in the price of mercury, leading producers of mercurial preparations have again reduced these commodities. Reductions range from 12 to 18c per pound. Mercury bichloride crystals are now being offered on spot at $1.24 per pound, with gran. powder being offered at $1.09. Calomel is down to $1.59, red precipitate $1.72, and white precipitate $1.67 per pound respectively.

Strychnine Prices Cut

A sharp competitive condition is the feature of the strychnine market. This competition is of both foreign and domestic origin. Domestic producers have twice reduced their prices within a week. Alkaloid is now offered at 55c per pound, with powdered at 45c per pound. Sulfate is offered on spot at 37c per pound. Supplies are reported to exceed the demand by a good margin. Prices of the raw material, nux vomica, remain steady. Exports of nux vomica from British India declined from 5,648,000 pounds in year ending March 31, 1930, to 3,219,300 pounds in year ending March 31, 1931.

Seidlitz Mixture Steady

The market for seidlitz mixture is more stable since the declines in tartar products have been checked. Spot quotations are on the basis of 13½c per pound with a fair demand reported.

Domestic Iodine Production

Production of iodine, resublimed, in the United States in 1929 amounted to 103,922 pounds, valued at $463,152, as compared with 90,765 pounds, valued at $429,475 in 1927, according to Department of Commerce. The product is obtained mostly from oil well waters in Louisiana and California. It is reported in the market that there is a good demand for this commodity for shipment to China as that country has placed a boycott on Japanese goods.

Camphor Imports Up Sharply

A good demand is said to exist for camphor in the spot market. No price changes have been recorded during the past month. A firm tendency is noticed.

Imports of natural crude camphor during the eight months period ended August 31, 1931, amounted to 1,272,800 pounds valued at $460,500 as compared with 621,700 pounds valued at $247,000 in the corresponding period of 1930. Purchases of natural refined camphor increased from 608,600 pounds valued at $379,500 in the 1930 period to 821,000 pounds worth $395,200 in 1931.

Acetylsalicylic Acid off 10c

Acetylsalicylic acid has been reduced 10 cents per pound to 75 cents per pound for quantities of 100 pounds upward. Acetylsalicylic acid with 10 per cent. starch has been reduced to 69 cents per pound. The reduction is due to competition from a new maker who has attempted to enter the market via the route of lower prices. One maker of private brand tablets is reported to have been taking on the production of the new maker with the consequence that this tablet maker was able to underquote other drug manufacturers. There are no definite indications whether or not the market is on a firm basis yet.

Tartaric Acid Steady

The stiff competitive condition that prevailed in tartaric acid, and which drove this commodity down to very low levels, seems to have ameliorated to the extent that no further recessions have taken place. The market is unchanged from levels reached a month ago. It is generally reported that imported goods are offered in good volume without affecting prices.

Agar Easier

Agar agar, which had been very strong for the past several months, has eased off slightly due to the fact that there has been some gains in spot stocks. Number one is now offered at from $1.15 to $1.20 per pound with number two offered at from $1.05 to $1.07. The fundamental position of the item, however, is still strong in spite of this spot reduction as production this year had declined and the item is in greater demand due to the fact that it is looked upon with favor by packers of psyllium seed in this country.

Imports of agar agar into the United States during the first eight months of 1931 amounted to 455,500 pounds, as compared with 288,000 pounds during the corresponding period in 1930.

Calcium Gluconate Cut

Due to the fact that calcium gluconate has met with widespread development, the price has been cut in half and the product is now offered at 30 cents per pound for granular material, and 32 cents per pound for powdered.

Thymol Reduced

Thymol has been reduced on spot to from $1.45 to $1.70 per pound. Competition has been keen in this item. Thymol iodide remains unchanged at $5.60 per pound.

Wormseed Oil Still Weak

The decline in oil wormseed has not been checked, the spot market being lower this month at from $2.55 to $2.70 per pound. It is generally reported that on a firm bid better than the above prices could be done. This market has declined rather drastically during the past few months and it was generally assumed that the market had reached the bottom but at today's level the market is still weak in tone with further reductions likely. Stocks are reported as being more than ample to meet consumer requirements.

Wormwood Oil Demand Small

The present consumption of wormwood oil is small and the market on spot is in a weak condition. Prices have been officially marked down 25c per pound during the past month and are now on the basis of from $4.00 to $4.25 per pound. The market does not show stability at these levels and in some quarters it is intimated that $3.85 per pound could be done on a firm bid.

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Psyllium Seed Steady

Psyllium seed continues to meet with a favorable demand. French seed is firmer on spot with 25c and 27c per pound being asked. Indian seed is also meeting with a continued good demand but is unchanged in price, still being offered at from 8c to 9c per pound.

The American Assistant Trade Commissioner at Calcutta reports that the high prices now prevailing in the United States for psyllium seed, imported chiefly from France, has focused attention on possible procurement from other sources. That several varieties of plantago are indigenous to India has been known for centuries, and extensive use of the drug has long been made by native medicine practitioners. Three species of plantago are familiar to India drug dealers—plantago major, plantago psyllium or plantago Asiatica. The first-named grows wild in Northern India, and is said to be cultivated to some extent in Bengal, Mysore, and along the Coromandel Coast. Production of psyllium seed in India was estimated at about 120,000 pounds for 1929-30. Judging from a report of the Bureau's Bombay office, however, production has been increasing, as one Indian firm is said to have shipped over 200,000 pounds to the United States during the past few months.

Plantago ovata or ispaghula and Ocimum basilicum are used in British India for a number of internal disorders, particularly throat ailments, dysentery, and inflammatory conditions of the digestive organs. Steeped in water, the seeds swell into a mucilaginous jelly, which is said to be demulcent. Plantago seeds are also roasted and thereupon taken internally for their astringent effect.

Imports of psyllium seed for consumption into the United States during the eight months period ended August 31 amounted to approximately 1,143 tons.

Linden Flowers Firm

Linden flowers are very firm on spot with no change from the prevailing market of from 16c to 17c per pound with leaves, and from 22c to 23c per pound without leaves. The market is higher abroad as a short crop was gathered. Spot stocks are also in small supply. Very little is being done in the way of buying in this item but the appearance of firm business would undoubtedly result in an advance.

Blue Malva Scarce

Blue malva flowers are very scarce in the spot market and it is reported that what little is available would not be sold under from 50c to 60c per pound. Practically no blue flowers were obtained this year. They bloom only in the fall of the year and if rains are excessive they do not bloom at all. This happened this year so that the spot market was not replenished.

Gum Arabic Remains Weak

Gum arabic continues in the weak position that has marked this commodity throughout the entire year. Although no further reductions are noted, the market being officially at 8½c per pound, it is generally reported that 8c per pound is being done in some quarters.

The marked weakness in this commodity is due to the fact that production during the last collection season was heavy and the largest consuming markets of the world showed a decided decrease in demand. The United States, one of the leading consignees, took in 1928 4,000 tons of gum, 3,000 tons in 1929, and 4,000 tons in 1930. In 1931 (Jan.-Aug.) 2,680 tons was purchased here against 2,870 for the same period in 1930. Great Britain, Germany, and France are also important purchasers. Shipments to these countries, with the exception of Great Britain, also showed a decided drop, France taking 1,788 tons (Jan.-Aug.), against 2,631 tons for the same period in 1930; Germany 1,523 tons against 2,560 tin 1930; Great Britain 3,928 tons against 3,121 tons in 1930.

The total exports from the Sudan during the period January-August 1931 totalled 15,349 tons, against 15,580 tons during the same period of 1930. It can therefore be assumed that as production was high there is a considerable carryover in the producing regions. It is now getting along toward the season when collections will again commence. Some curtailment in production is generally expected in lieu of the decreased demand and the very low prices prevailing. Should this prove true the market may, in the late winter take on a firmer aspect.

Goldenseal Lower

Goldenseal root is lower on spot at from 95c to $1.00 per pound with the powdered being offered at from $1.25 to $1.30 per pound. With most dealers are amply supplied and with demand running considerably below normal a competitive condition has resulted.

African Pyrethrum

A Department of Commerce report states that experimental cultivation of pyrethrum flowers is under way in Kenya, Africa. The grower shipped small quantities to London recently whereupon it was determined that the quality was of high grade.

Kamala Price Shaded

The spot market for kamala has been shaded to from 40c to 45c per pound. This market has been very slow for some time so that certain holders desired to move stocks. There seems to be a fair inquiry at the new levels.

Santonin Unchanged

After the decline in santonin a month ago the market remains firm and quiet. Spot quotations are on the basis of from $105 to $112 per pound. Press dispatches report the operation of a santonin factory at Tschimkent whose output during the fiscal year 1930-31 was 150 metric tons. Russia is the principal source of santonin.

Chamomile Flowers Firm

Hungarian chamomile flowers are firm on spot with no price changes noted from quotations that prevailed a month ago. There seems to be ample supplies on spot to meet the small demand current at this time. The firmness of the market is attributed to a large extent to the number of rejected shipments. During October, 30 cases were rejected by the Department due to excessive foreign organic matter. In the primary market the position of chamomiles is firm to strong. It is reported that higher prices are being asked for shipment and that this tendency will develop so that in some quarters higher prices are looked for on spot in the not far distant future.

Ipecac Down to $1.05

Ipecac is lower on spot at from $1.05 to $1.10 per pound for the whole with the powdered offered at from $1.30 to $1.40. Lower prices were obtainable in the primary market where stocks are in supply and this influence has been reflected in the market here. It is reported that due to the low prices prevailing in the shipment market some curtailment of collections might be expected.

Saffron Firm

Spanish saffron continues to occupy a very firm position in the spot market. Official quotations have been marked up to the basis of from $15 to $15.50 per pound. There is a marked scarcity of spot stocks due to the number of rejections of arrivals containing a too high percentage of styles. The scarcity is such that a buyer wishing to place an order for a five or ten pound lot would have difficulty in locating the material. Buyers, however, have been reported as having practically withdrawn from the market, being unwilling to pay these high prices.

Stramonium Leaves Strong

Stramonium leaves are in a strong position on spot due to the general strength displayed in the item abroad. It is generally reported that the item has been underproduced and higher prices are being paid for replacement. Although business on spot is in a small and routine way there is no shading from the prevailing prices of from 11c to 12c per pound.

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Grasse Essential Oil Outlook

By O. C. Zilisch

Two years ago, as the trade will remember, the closing date for the gathering of the jasmine flower was October 10th. This year the official closing date was September 20th, with the exception of that for several distilling perfumers, among which the firm of Roure-Bertrand Fils and Dupont, who continued to receive the jasmine flower for some twenty additional days. Generally speaking, the jasmine yield this year came to about one-half the normal, some saying that it even fell below this mark. Holdover stocks of jasmine are still large, and everyone hopes that something will occur to loosen things up a bit, thus carrying some of these large stocks into production and consumption. Some of the people holding stocks in the Grasse region are jasmine poor, just like certain people today are land poor. The basic wealth is there, but there are no buyers, with the result that jasmine and other products are simply at a standstill.

In the Paris district rumors are making the rounds that the first of the coming year will bring with it a big change for the better, as certain signs of movement are are already evident. It is certain that things in general from a business point of view are less calm than they were some little time ago. Unemployment has shown a slight increase, although not enough of an increase to cause any feeling of alarm. Everyone in France fears the unemployment danger, and everything is being done to keep as many people as possible working at something, though it be only a few days a week, with the thought in mind that some work, at least, keeps everyone thinking comparatively little of the general economic depression. The manufacturing perfumers in the Paris region are, in certain instances, not working the entire week. the same condition existing here as in the States. The reason in France for cutting down on the total amount of working hours is due to the fact that this summer practically everything in the luxury line, this including, of course, perfumes and toiletries of all kinds, did not move Tourist business into France was below the normal. In fact, the entire luxury category has reported a decided drop in business. Perfumes still continue to take a luxury tax, running as high as 12 per cent., this bringing the price of perfumes up to a price that many people did not care to pay. The past four to six months have been very hard for the retail perfume business in France. There is, however, a great deal of relief in making the rounds at this time of the year, the end of October, and to find that the perfume business from every point of view is brightening. This means that some of the manufacturing perfumers will soon be in a position where they will have to purchase stocks to replace those that have been holding them over through the depression. Activity is, therefore, expected in a number of quarters during the next few months, with the consequence that everyone concerned will come in for some business.

This is, of course, the commencement of the rest period for many perfume-flower and aromatic plants in the Grasse region, and the earthing up of the jasmine has begun. As already reported from time to time in Drug Markets, many of the jasmine plantation owners are neglecting the jasmine, due to the situation that has developed this season and last. Next year will see decidedly fewer jasmine plants in production, which means that if there is any activity at all prices are bound to see a rise. Nominal price for jasmine concrete in France is reported as being somewhere around 3,000 francs per kilogram ($120). Naturally, this does not mean that this is any kind of fixed price, as jasmine can be bought in various quarters for less, due to the large amount of stock on hand. However, all those who can possibly do so are holding onto their stocks, with the thought that when the corner has been turned, there is money to be made on the stocks now in existence throughout the region.

Jasmine Buying

A number of far-seeing persons are, apparently, buying up jasmine stocks and holding them against the time when the general activity starts. In talking with some of the middlemen in the region it was learned that this buying has assumed fair proportions during the past few weeks, coincident with the feeling that things generally are scheduled for a change to the better. The Hoover-Laval meeting has produced an excellent impression in France on the whole, and much optimism with regard to the results to follow exists. There are those, of course, who pooh-pooh the entire meeting, but they are really in the minority, and the Franco-American relationship seems destined to grow stronger through the recent meeting of Premier Laval and President Hoover. All of these things are topics of conversation among the distilling perfumers in the Grasse region, who have been hit with the rest of the industry throughout the world, and it is the very confidence engendered by such conversation that is gradually bringing back a sane view of the situation and dissipating the fear that has existed.

The growers in the Grasse region are less inclined to the optimism felt by the distilling perfumers, because they are nor in direct touch with the events that are now a part of the entire world's economic fabric. After all the grower is frequently hidden away in his small district. with comparatively little interchange of ideas as regards the happenings of the outside world. That does not mean that he is ignorant of the general situation, for he reads the newspaper, but he is still prone to measure the difficulties of the past and present seasons in the light of what happened forty or more years ago. One grower nearly eighty years old, and still very much on the job, vouchsafed the opinion that if his experience was worth anything that the present crisis would last at least seven years, if not more. His mind went back to a similar situation, as he put it, that occurred more than forty years ago. He has not taken into consideration the actual march of progress as we know it, because he has not become, even to the smallest degree, part of that progress. His one thought now is the getting rid of as much jasmine as possible, for the reason that it is simply a dead loss to him. And so he will conscientiously go about destroying every plant that he possibly can, consistent with good sense, keeping those, of course, that permit him to keep himself in the running for the moment when the turn comes.

Geranium Market

At the present writing the geranium is being gathered, the plantations of which have so diminished during the past few years that there is comparatively little interest in this once important culture. As the trade knows the rose geranium is now being successfully grown and distilled in the French colonies, Algeria, for example, with the result that the rose geranium of Grasse, once a well-known culture, is practically disappearing.

The same has occurred in connection with the sweet basil, a culture that was at one time comparatively important in the Grassee rgion. This season's small yield has brought about a firmer tone for sweet basil products, for which a fair demand continues to exist.

Cultures like the Grasse mint, tarragon, sweet basil, geranium, tuberose, etc., used to run into millions of kilograms before the war, whereas today the entire group does not produce more than, perhaps, a half million kilograms. From these figures one can see what has happened to some of the smaller growers who had always depended upon these cultures for a livelihood.

One culture that has had a tremendous step forward this season is the lemon-scented verbena, which is of very good quality from the Grasse region. The odor of the verbena grown in the Grasse district is exquisite, and anyone visiting the section can prove this for himself. Herborists all over France are at the present

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time putting in a demand for Grasse lemon-scented verbena, and the result has been a good business for the growers of this plant. In fact, even the manufacturing perfumers have increased their demands for verbena products, and the small amount of plants actually in existence, some ten thousand in all, have proved inadequate to satisfy the demands put upon them. The next season will, it is felt, bring with it a consequent increase in the number of verbena plantations throughout the region, as many growers have soil and locations suited to this culture. With a decided increase in plantations will come, of course, a lower scale of prices for the herb itself and the products distilled from it, unless the demand continues to increase with the marked steadiness of the past few months. Infusions of verbena in the cafes throughout France are increasing surprisingly, a favorite combination of the Parisian men and women being verbena and mint mixed. These infusions are particularly popular during the winter months, and in the evenings in a city like Paris, literally filled with cafes, one will see women beautifully dressed, listening to music, and drinking an infusion of verbena and mint. The calming, soothing effect of an infusion of this kind is being sought more and more by the French, who are very careful, as a rule, of their state of well-being. Infusion business in France is quite extensive, this opening up a fine market for the grower of aromatic plants of the type of verbena.

The orange tree groves (bigarade) show a generally fine condition, and, apparently, the extended dry weather of this summer did not hurt the trees in any way. Although the prices paid for the orange flower were not anything to become elated about, still they helped to pay the growers for their trouble, and leaving them, at least, a small amount for their investment.

Rose Trees Suffer

On the other hand, the rose trees in the Grasse region suffered considerably from the dry weather. They are poor in aspect, and the next season's yield looks as though it has been compromised by these adverse weather conditions. In other words, the yield for the next year will be, according to those very close to the situation, small. Furthermore, the ridiculous prices offered this year practically completely discouraged them, and the plantations are not receiving the same amount of care that they always do. The May rose yield for the next season will be an interesting thing for the trade to watch, particularly if some of the rose products move into consumption along relatively substantial lines.

The olive trees of the region benefitted from the rains that visited the region at the end of September, and the yield promises to be interesting, except for the low market prices reigning throughout the entire district. As reported previously, the olive and olive oil business of France has suffered a decided setback during the last few years, due to numerous causes, particularly that of the increased use of oils like those from the peanut, for example. It should be noted, however, that sales on the first grade olive oils continue favorable, and these are in demand among those who appreciate a high grade of olive oil for certain purposes.

As signalled before, a veritable campaign is being waged in France for the protection of the olive oil industry. It is on the eighth and ninth of November that the International Oil Congress is to be held, a report of which will be submitted to the readers of Drug Markets. Twenty years ago, in 1911, a similar congress convened at Avignon, with the official sanction of the French government, and there were present representatives from Italy, Spain, Roumania, Greece, Turkey, Tunis. Frederic Mistral, the famous Provencal poet, voluntarily accepted the invitation to receive those attending the congress of 1911, just three years before his death. He received them at Maillane (Bouches-du-Rhone), where he was born in 1830, with his customary amiability. Mistral the poet sang the praises of olive oil, and wished the members present success in their work, and the 1911 congress did do many things of value to the olive industry as a whole.

Marseilles market prices for olive oil, according to latest available figures, were: Bouches-du-Rhone, 700/750; Sousse extra, 600/610; Sfax, 580/590; Tunis, second pressing, 550/560; Algeria, 500/490; Borjas, 240/250 pesetas. Market generally reported as being calm, a condition that has existed now for some little time. It is hoped that the coming winter season will bring with it a bit of activity in the olive oil market, although there is nothing in the situation at the present time to warrant any great movement either way. In other words, the market seems to have settled down to a steady calm.

Clove Oil Down; Spice Strong

Clove oil is weaker with leading distillers revising their quotations to the basis of from $1.10 to $1.15 per pound as to quantity. This revision was made in spite of the fact that clove spice is not in plentiful supply here and is in a firm position in the primary market. The indications, therefore, point to a firm future market for raw material but evidently the volume of business being done in the oil is unsatisfactory with some of the larger consumers being content to sit back and await further developments so that the dealers have reduced prices in face of the possibility of having to pay more for raw material to make replacements.

Peppermint Remains Low

With comparatively little business going forward in natural peppermint this commodity has continued its downward trend established some months ago. Natural oil is now offered on the spot market at from $1.45 to $1.55 per pound, with redistilled offered at from $1.65 to $1.75 per pound as to quantity.

It is generally reported that due to the very low prices prevailing in the primary market a poor quality of oil is being produced there, being largely low in menthol content. Growers, having become discouraged at their inability to make a profit, have neglected the crops with the result that a weedy condition was permitted to exist and this has shown up in the distillates. Dealers report that the oil must be watched very carefully and that many rejections due to poor quality are necessary. One dealer reported that these rejections have run as high as 75 per cent. of the oil offered them.

Citronella Goes Lower

Ceylon citronella oil continues to show a downward tendency under the influence of an easier primary market. The spot price in 50 pound tins is now from 36c to 38c per pound. Java oil, however, continues to display a firm tendency and the market is without price revision.

It is reported that menthol of a high degree of purity and permanent quality has been synthesized from Java citronella oil. There is a possibility that should production of this commodity be undertaken in commercial quantities it would have a decided and stimulating effect on prices.

Competition in Coriander

The small demand for coriander oil has created a competitive condition that has reacted to the extent of lowering the spot market 25c per pound. This oil is now offered at from $4.25 to $4.50 per pound as to quantity.

Ginger Oil Price Off

An easier raw material market has resulted in the revision of prices prevailing for oil ginger. Spot oil is being offered at from $4.25 to $4.40 per pound. Demand is in a small way and has not been helped by the lower prices asked.

Cananga Oil Shaded

Oil cananga native is lower by 10c per pound with spot quotations on the basis of from $1.60 to $1.75 per pound. The decline has failed to bring out any improvement in buying. Stocks are fairly large so that some tendency to shade the above quotations are noticed.

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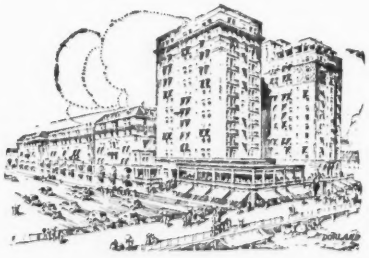

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Sandalwood Oil Competitive

Sandalwood oil is the subject of sharp competition between the distiller of the oil distilled under the supervision of the Mysore Government, and the distillers of other U. S. P. oil. However, thus far the price-cutting has been indulged in solely by the distillers of oil other than that of the Mysore Government upon which the price remains unchanged at $7.75 per pound. Distillers of U. S. P. oil have cut their price further since last month's report and now quote $6.50 @ $6.75 per pound.

The competitive situation in sandalwood oil is due to the fact that during this year distillers here have been able to import sandalwood from provinces of India other than the Mysore State at prices which have enabled them to distill U. S. P. East Indian oil and make a profit while selling at the same or sharply lower prices than those quoted for the Mysore oil. Previously, however, there was understood to be no wood available at prices that would permit of distillation of the oil at a competitive cost. How long the present condition will continue is problematical, but is hinted at by some that it will not continue long.

Sellers of the Mysore oil state that they see no reason to cut the price, since their business is not being affected appreciably by the offerings of lower priced oil.

Lavender Oil Easier

An easier tone has developed in the primary market for lavender oil. This has been reflected in the spot market, prices having been marked down to the basis of from $1.80 to $2.00 per pound.

Consul Robertson Honey, Nice, reports that exports of lavender oil from the Nice consular district during the first nine months of 1931 amounted to 78,000 pounds valued at $208,000, compared with 133,500 pounds valued at $332,400 in the corresponding period of 1930, and 123,600 pounds worth $363,000 in the 1929 period. French dealers estimate stocks at 150 metric tons.

Distilled Lime Oil Easier

Distilled lime oil continues the decline that set in last month and is now generally offered at from $8.60 to $9.60 per pound. Expressed remains steady and without price change. The decline in business being done in this item is attributed to the fact that most dealers and consumers look forward to lower prices later on and are not particularly interested at the moment. The production season is at hand and a more generous supply is expected so that some holders have shown anxiety to sell.

Citrus Oil Easy

The citrus oils are meeting with a fair inquiry by hard candy makers as well as consumers in the beverage trade. In general, however, the market is easier with the exception of Bergamot.

Bergamot oil is firm and is being offered at from $1.85 to $2.20 per pound. Although unsold stocks here are reported as being ample to take care of requirements for some time to come, dealers are not inclined to shade quotations. The Italian market has been rather unsettled during the past month first registering an increase and shortly afterward easing off again so that the local trade is disposed to await more definite news as to the reason for these fluctuations. It is reported that the consortium is becoming more active in their efforts to stabilize this commodity.

Lemon oil is in good supply but reported not such as to cause a serious competitive condition at present. Californian oil is offered on the basis of from 75c to 85c per pound representing a figure slightly under what was quoted a month ago.

Orange oil continues in a competitive condition with prices driven lower. Italian is offered at from $1.70 to $2.00 as to brand; sweet West Indian $1.55 to $1.70 and American cold pressed $1.70 to $1.80 per pound.

Trade Commissioner Elizabeth Humes, Rome, and Consul General Louis G. Dreyfus, Jr., Naples, report that according to official figures, during the first six months of 1931, Italian exports of citrus oils totaled 595,641 kilos, a decline of 34 per cent., as compared with the corresponding period of 1930. It was estimated toward the end of August that approximately 1,400,000 pounds of lemon oil was available throughout Sicily. The essential oil situation in Italy remained practically unchanged during September with little business transacted. While lemon oil registered a slight advance, prices of other oils declined with a marked drop in sweet orange and mandarin.

Spearmint Still Weak

Spearmint is still in a weak position both on spot and in the primary markets. The market is lacking in support by large buyers for consumption so that the general tendency is for this commodity to seek lower levels. Spot quotations are on the basis of from $1.30 to $1.40 per pound.

Lemongrass Firm

The undertone in oil of lemongrass is firm with the spot market being quoted at from 51c to 53c per pound. It is reported that the low prices at which this item had been selling has discouraged production and a shortage was suddenly discovered in the producing country. The market for shipment is much firmer as a result and there are some dealers that look for an increase on the spot.

Croton Oil Dull

Croton oil, which in general is a slow mover, has been meeting with a particularly apathetic demand. The replacement market has also been quite favorable so that prices were marked down on the spot. Quotations are on the basis of from $3.80 to $4.25 per pound.

French Government Action

A resolution was formally presented to the French Chamber of Deputies with regard to flower crops and the production of essential oils and kindred manufactures in France recommending that the French Government should take the following steps: (1) A compulsory declaration to be made by the grower of the quantity of each crop of flowers or herbs; and (2) a similar declaration by the distiller of the quantity of oil or essence that he has manufactured from such crops. The fundamental idea of this resolution is to check overproduction of flowers and their products. (Consul Prescott Childs, Nice).

Less Oils Imported

Imports of essential oils into the United States during the first eight months of 1931 declined in value to $2,540,000 from $4,159,700 in the corresponding period of 1930. With the exception of otto of rose each oil specifically recorded showed a marked decline in both quantity and value. Imports during the eight months period of 1931 follow:

	Unit	*Quantity*	*Value*
Cassia and cinnamon	pounds	240,300	$249,600
Geranium	"	131,100	411,400
Otto of roses	ounces	9,300	131,600
Bergamot	pounds	141,600	363,700
Citronella & lemongrass	"	736,600	387,300
Lavender and spike lavender	"	236,200	498,500
Lemon	"	528,100	515,600
Orange	"	125,700	285,200
Sandalwood	"	15,100	63,400
All other	"	2,382,600	1,253,400

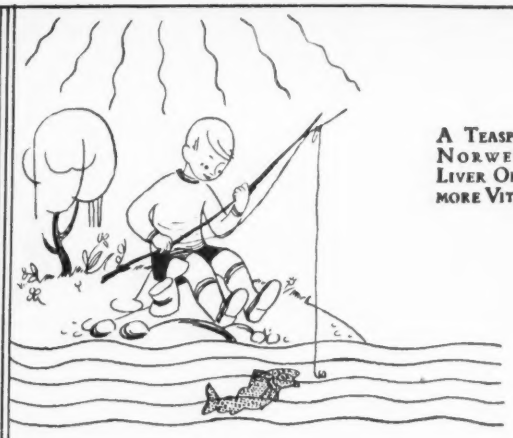
Heliotropine Imports Double

Imports into the United States of heliotropine of 551 pounds entered for consumption during September, 1931, brought the total for the three quarters of 1931 to 2,346 pounds, more than double the quantity entered during the corresponding period of 1930, when 1,124 pounds were received.

The 1931 imports, principally from Germany, were also larger than incoming shipments for either of the entire year 1930 (1,533 pounds) or 1929 (2,505 pounds).

Erigeron Price Lower

Erigeron is easier and lower in the spot market quotations having been marked down to the basis of from 95c to $1.05 per pound as to quantity. Sales have been lagging and the market in general is in a dull position.



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Deterioration By Light Through Glass

(*Continued from page 457*)

factors, such as evaporation, freezing in winter and explosions in summer rendered our analytic figures as to deterioration in direct daylight less reliable than those obtained from samples maintained under the more normal condition of diffused light.

Deterioration After Twelve-Month Exposure to Diffused Sunlight

Percentage of Deterioration Shown by Actual Assay

Chemical	*Flint* A.	*Amber* A.	*Amber* B.	*Blue* A.	*Green* [A.	*Green* B.	*Green* C.]	*Control**
Hydriodic acid, dilute	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hydriodic acid, syrup	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hydrobromic acid, dilute	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hydrocyanic acid, dilute	15.7	24.7	31.1	19.7	25.9	28.7	18.7	1.7 to 18.7
Solution of arsenic and mercuric iodide	39.2	33.0	29.5	22.5	30.0	65.8	28.3	30.9
Solution of chlorinated soda	50.6	28.0	34.4	34.3	35.4	38.3	42.9	37.6
Solution of chlorine, compound	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Solution of hydrogen peroxide, A	60.8	9.4	8.2	19.8	18.0	18.0	13.8	7.7
Solution of hydrogen peroxide, B	88.1	13.7	31.0	45.8	57.0	33.3	46.2	4.11
Spirit of ethyl nitrite	43.3	57.3	61.3	60.5	86.4	100.0	61.3	15.8
Sulphurated potassa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Syrup of ferrous iodide	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

*Samples from same batch kept in darkness for one year.

The next table discusses the degree of deterioration, after one year of exposure in diffused light, of 22 chemicals in which change is best indicated by specific tests or by the darkening of the product.

Deterioration Year Exposure to Diffused Light as Shown by Color Change or by Special Tests

Abbreviations

C. D.—considerable darkening. S. D.—slight darkening. N. C.—no change. Det.—deterioration shown by chemical tests.

Chemical	*Flint* A.	*Amber* A.	*Amber* B.	*Blue* A.	*Green* [A.	*Green* B.	*Green* C.]	*Control**
Adrenaline hydrochloride solution	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
Apomorphine hydrochloride solution	C.D.	C.D.	C.D.	C.D.	C.D.	C.D.	C.D.	C.D.
Benzoic acid	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
Betanaphthol	S.D.	N.C.	N.C.	S.D.	S.D.	N.C.	S.D.	N.C.
Chloroform A	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
Chloroform B	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
Ephedrine hydrochloride solution	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
Ether A	Det.	Det.	N.C.	Det.	Det.	Det.	Det.	N.C.
Ether B	Det.	N.C.	N.C.	Det.	Det.	N.C.	Det.	N.C.
Ferric citrate	C.D.	S.D.	S.D.	C.D.	C.D.	S.D.	C.D.	N.C.
Ferric phosphate, sol.	C.D.	N.C.	N.C.	C.D.	C.D.	N.C.	C.D.	N.C.
Ferric pyrophosphate soluble	C.D.	N.C.	N.C.	C.D.	D.C.	N.C.	C.D.	N.C.
Ferrous iodide, syrup	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
Hydriodic acid, diluted	N.C.	N.C.	S.D.	N.C.	N.C.	N.C.	N.C.	N.C.
Hydriodic acid, syrup	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
Hydrobromic acid, diluted	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
Mercuric iodide, red	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
Mercuric oxide, red	C.D.	C.D.	S.D.	C.D.	C.D.	S.D.	C.D.	N.C.
Mercuric oxide, yellow	S.D.	S.D.	N.C.	S.D.	S.D.	N.C.	S.D.	N.C.
Mercurous chloride	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
Mercurous idodide, yellow	C.D.	C.D.	C.D.	C.D.	C.D.	C.D.	C.D.	N.C.
Phenol (one sample)	S.D.	S.D.	S.D.	S.D.	S.D.	S.D.	S.D.	S.D.
Physostigmine salicylate Solution	All erratic.							
Pyrogallol	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
Resorcinol A	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
Resorcinol B	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
Santonin	Yel.	N.C.	N.C.	Yel.	Yel.	N.C.	Yel.	N.C.
Silver nitrate	S.D.	N.C.	N.C.	S.D.	N.C.	N.C.	S.D.	S.D.
Thymol iodide	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.

*Samples from same batch kept in darkness for one year.

Next are given two tables indicating speed of deterioration of 33 chemicals (or preparations) stored in containers exposed to (a) direct daylight and to (b) diffused light. These tables are expressed in terms of the number of months before deterioration was observed. In the case of direct daylight, it will be noted that in several cases deterioration occurred in less than one month of exposure. Obviously, the notation on the tables "–1," "–3," etc., indicate deterioration occurred in less than one month, less than three months, etc.

Stability of Chemicals in Colored Glass Exposed to Direct Daylight

(Expressed in Months)

Chemical	*Flint* A.	*Amber* A.	*Amber* B.	*Blue* A.	*Green* [A.	*Green* B.	*Green* C.]	*Control**
Adrenaline hydrochloride (0.1% solution)	– 1	1	1	– 1	– 1	– 1	– 1	+12
Apomorphine hydrochloride (0.5% solution)	– 1	– 1	– 1	– 1	– 1	– 1	– 1	– 1
Benzoic acid	4	+12	+12	4	4	+12	4	+12
Betanaphthol	– 1	1	1	– 1	– 1	1	– 1	+12
Chloroform A	2	6	6	2	2	6	2	+12
Chloroform B	2	6	6	2	4	6	2	+12
Ephedrine hydrochloride sol.	– 1	1	1	– 1	– 1	– 1	– 1	+12
Ether A	– 1	1	1	– 1	– 1	1	– 1	+12
Ether B	– 1	1	1	– 1	– 1	1	– 1	+12
Ferric citrate	– 1	– 1	– 1	– 1	– 1	– 1	– 1	+12
Ferric phosphate, soluble	– 1	– 1	– 1	– 1	– 1	– 1	– 1	+12
Ferric pyrophosphate, soluble	– 1	– 1	– 1	– 1	– 1	– 1	– 1	+12
Hydriodic acid, diluted: (As to HI content)	+12	+12	+12	+12	+12	+12	+12	+12
(As to color)	6	12	12	2	4	4	4	+12
Hydriodic aicd, syrup: (As to HI content)	+12	+12	+12	+12	+12	+12	+12	+12
(As to color)	4	4	4	4	4	4	2	+12
Hydrobromic acid, diluted	+12	+12	+12	+12	+12	+12	+12	+12
Hydrocyanic acid, diluted	– 1	– 1	– 1	– 1	– 1	– 1	– 1	– 1
Mercuric iodide	+12	+12	+12	+12	+12	+12	+12	+12
Mercuric oxide, red	– 1	– 1	– 1	– 1	– 1	– 1	– 1	+12
Mercuric oxide, yellow	– 1	– 1	– 1	– 1	– 1	– 1	– 1	+12
Mercurous chloride	– 1	+12	+12	– 1	– 1	+12	– 1	+12
Mercurous iodide	– 1	– 1	– 1	– 1	– 1	– 1	– 1	+12
Phenol (one sample)	– 1	1	1	– 1	– 1	1	– 1	1
Physostigmine salicylate (0.5% solution)	– 1	– 1	– 1	– 1	– 1	– 1	– 1	– 1
Pyrogallol	– 1	6	6	– 1	– 1	6	– 1	+12
Resorcinol	– 1	2	2	– 1	– 1	1	– 1	+12
Santonin	– 1	1	1	– 1	– 1	– 1	– 1	+12
Silver nitrate	2	4	4	2	2	+12	2	4
Solution of arsenic and mercuric iodide	– 1	– 1	– 1	– 1	– 1	– 1	– 1	1
Solution of chlorinated soda	– 1	– 1	– 1	– 1	– 1	– 1	– 1	1
Solution of chlorine, compound	– 1	– 1	– 1	– 1	– 1	– 1	– 1	–1
Solution of hydrogen peroxide A	– 1	1	1	– 1	– 1	– 1	– 1	2
Solution of hydrogen peroxide B	– 1	1	1	– 1	– 1	– 1	– 1	2
Spirit of ethyl nitrite	– 1	– 1	– 1	– 1	– 1	– 1	– 1	4
Sulphurated potassa	+12	+12	+12	+12	+12	+12	+12	+12
Syrup of ferrous iodide: (As to FeI_2 conetnt)	+12	+12	+12	+12	+12	+12	+12	+12
(As to color)	1	1	1	1	1	1	1	1
Thymol iodide	– 1	4	4	– 1	– 1	4	– 1	+12

*Samples from same batch kept in darkness for one year.

The latter table is somewhat incomplete, since the original aim was to use the samples, kept in diffused light only, as a check even as obtained in the case of the samples kept in the dark. Those where deterioration was detected by color change were examined month by month. Those requiring chemical testing or assaying were so treated only at the end of the second or the twelfth month. This explains such large stretches of time such as "+2" and "12" found under solution of hydrogen dioxide.

Speed of Deterioration in Diffused Light

(Expressed in Months)

	Amber A.	*Amber* B.]	*Blue*	*Green* B.	*Green* A.	*Flint*
Adrenalin hydrochloride (0.1% solution)	12	12	12	12	12	12
Apomorphine hydrochloride (0.5% solution)	– 1	– 1	– 1	– 1	– 1	– 1
Benzoic acid	12	12	12	12	12	12
Betanaphthol	12	12	6	12	6	6
Chloroform	12	12	12	12	12	12
Ephedrine hydrochloride (0.5% solution	12	12	12	12	12	12
Ether	12	12	–12	12	–12	–12
Ferric citrate	6	6	– 3	6	– 3	– 3
Ferric phosphate	12	12	– 3	9	– 3	3
Ferric pyrophosphate	12	12	– 3	12	– 3	– 3
Hydriodic acid, diluted: (As to HI content)	12	12	12	12	12	12
(As to color)	12	6	12	12	12	12
Hydriodic acid, syrup (As to HI content)	12	12	12	12	12	12
(As to color)	12	12	12	12	12	12
Hydrobromic acid, diluted	12	12	12	12	12	12
Hydrocyanic acid, diluted	Erratic					
Mercuric iodide	12	12	12	12	12	12
Mercuric oxide, red	– 3	– 3	– 3	– 3	– 3	– 3
Mercuric oxide, yellow	– 6	12	– 3	12	– 3	– 3
Mercurous chloride	12	12	12	12	12	12
Mercurous iodide	– 3	– 3	– 3	– 3	– 3	– 3
Phenol, liquefied	Erratic					
Physostigmine salicylate, (0.5% solution)	Erratic					
Pyrogallol	12	12	12	12	12	12
Resorcinol	12	12	12	12	12	12
Santonin	12	12	– 3	12	– 3	– 3
Silver nitrate	12	6	6	12	12	6
Solution of arsenic and mercurous iodide	Erratic					
Solution of chlorinated soda	2	– 2	– 2	2	2	2
Solution of chlorine, compound	– 1	– 1	– 1	– 1	– 1	– 1

(*Continued on page 519*)

Patents

UNITED STATES PATENTS

Citric Acid from Lemons

Process for production of citric acid and pectin from lemons consists in processing fruit to obtain a solution and insoluble matter. Latter is separated from solution which is then clarified with starch solution and concentrated. Pectin is then precipitated with alcohol, and citric acid recovered in the liquor as citrates of lime. Hugo G. Loesch, Rochester, N. Y., assignor, General Foods Corporation, New York. U. S. P. No. 1,808,737, filed December 29, 1925.

Aromatic Normal Amino-Alkyl-Amino Aldehydes

These aldehydes are products of therapeutic value. Formula of new compounds is as follows: HO:C.Ar.N(A)(B). In formula (A) stands for hydrogen, alkyl or aminoalkyl radicals, (B) stands for an aminoalkyl radical and (Ar) stands for an aromatic residue which may be substituted. Products obtained are generally yellowish colored oils, possessing strong basic properties. Oils can be distilled under vacuum without decomposition. They are easily soluble in water in form of their inorganic salts. August Wingler, Elberfeld, Germany, assignor, Winthrop Chemical Co., New York. U. S. P. No. 1,807,720, filed March 6, 1928.

Calcium Carbohydrate Compound

The calcium carbohydrate compound is used in compounding medicinal preparations and is also possessed of certain therapeutic value. Method of production consists in causing calcium hydroxide to act at moderate temperature on carbohydrate in presence of water. Mixture is then gradually concentrated and dried under vacuum. An acid salt is added for neutralization. Soluble calcium carbohydrate obtained has an agreeable taste. Ernst Stern, Berlin-Charlottenburg, Germany. U. S. P. No. 1,807,608, filed October 2, 1926.

Packing Ether

Ether package consists of can which has interior surface covered with aluminum oxide. Edward Mallinckrodt Jr., St. Louis, and Henry V. Farr and Lawrence P. Hall, Ferguson, Mo., assignors, Mallinckrodt Chemical Works, St. Louis. U. S. P. No. 1,807,598, filed December 20, 1929.

Solutions of Cholesterin

Process is concerned with manufacture of pure, clear aqueous alcoholic solutions of cholesterine and derivatives. Cholesterin or derivatives are dissolved in comparatively small quantity of an aliphatic halogenated hydrocarbon, which has marked solvent power for these substances. Then solution obtained is diluted with such quantity of dilute alcohol as will nesure production of permanently clear solution. Friedrich Passek, Hamburg, Germany. U. S. P. No. 1,809,422, filed February 14, 1929.

Product for Skin

Product for treating skin includes proportionately 100 g. of high grade commercial gelatine, 350 g. of water, 85 g. of zinc oxide, 50 cc. of ethyleneglycol and 50 cc. of castor oil. Ingredients are intermixed to produce homogeneous plastic mass which is poured into containers for dispesing. Joseph Urkov and Benjaminn R. Harris, Chicago, Ill. U. S. P. No 1,809,082, filed May 4, 1927.

Barbituric Acid Derivatives

Patent is concerned with manufacture of additive compounds of diethylbarbituric acid and 4-dimethylamino-2:3-dimethyl-1-phenyl-5-pyrazolon. Two ingredients are combined in substantially molecular proportions. Compound formed is in colorless needles of silky luster, having melting point between 113° and 115° C. and dissolving in water and being decomposed by benzene. Paul Pfeiffer, Bonn-on-the-Rhine, Germany. U. S. P. No. 1,808,994, filed March 20, 1925.

BRITISH PATENTS

Hydroxyaceylaminoarsenobenzenes

Patent is concerned with process for making important drugs of above type used in the treatment of blood diseases, and particularly with manufacture of glycollamido-arsenobenzenes. Products are made by condensing an arsine with suitable arsenoxide or dichloroarsine. I. G. Farbebindustrie A. G., Frankfurt-am-Main, Germany. B. P. No. 348,480, filed August 15, 1930.

Manufacture of Arseno Compounds

Process is concerned with manufacture of formaldehyde-bisulphite derivatives of arseno compounds. Products are unsymmetrical arseno compounds and have following general formula: -OH-CH_2-CO-NH-C_6X_4-As-C_6H_3(OH)-NH_2. In formula (X) represents hydrogen or substitute thereof. Compounds may be converted into non-irritant, water soluble, formaldehyde-bisulphite derivatives. Patent describes manufacture and therapeutic properties of compounds which are made from 3'-amino-4-glycollamido-4'-hydroxyarsenobenzene and its 2-methyl derivative. I. G. Farbenindustrie A. G., Frankfort-am-Main, Germany. B. P. No. 348,479, filed August 13, 1930.

Immunizing Agents Against Infection

Salves, protective against diseases other than diphtheria, are prepared according to this patent in such manner that preparations have increased absorptivity by skin. Absorption of salves is increased either by increasing dispersive power of same or by adding substances which irritate skin. E. Lowenstein. B. P. No. 352,210, filed June 17, 1930.

Antiseptics and Disinfectants

Dilute chlorothymol solution, concentration of 0.01 to 0.5 %, is germicidal if acidified to pH 4.5 or less with an organic acid. Solvents, used in preparation water-miscible monohydric alcohols. Harsh flavor of these alcohols is modified by addition of polyhydric alcohols or sugar products in case of mouth wash solutions. Pepsodent Co. B. P. No. 352,397, filed April 2, 1930.

Ointments

Process is concerned with preparation of ointment used for restoring hair. Composition consists of mixture of 3 pounds of petrolatum, one ounce of beeswax, three ounces of olive oil, three ounces of green oil of elder and three ounces of oil of eucalyptus. B. Thorns, West Bromwich, England. B. P. No. 350,064, filed March 17, 1930.

Salve Bases

Alkyl and cycloalkyl esters of sulphonic acids, derived from aromatic carboxylic acids containing more than one benzene, in view of their wetting, penetrating and dispersing qualities, are used for preparation of cosmetics, such as salves, creams, and vermicides. These esters may be used alone or in admixture with aromatic sulphonic acids and their salts, sulphonated oils, soaps or fat solvents such as hydrocarbons, chlorinated hydrocarbons, alcohols and ketones. Mono-esters derived from naphthoic sulphonic acids and mono-esters which are derived from disulphonic acids obtained from carboxylic acids, containing more than one benzene ring, are specified. H. T. Boehme A. G., Chemnitz, Germany. B. P. No. 350,595, filed March 18, 1930.

Medicinals for Internal Use

Preparations able to assist and regulate central nervous functions are obtained by precipitating aqueous or aqueous saline extracts of central nervous organs, for example brains of vetegrate animals with organic liquids such as alcohol. Brains

are ground with addition of quartz and extracted with water. Liquid is separated and poured into alcohol resulting in formation of flocculent precipitate, which is centrifuged and washed with alcohol. Then it is dried at 37° C. Material may be obtained from dispersions, press juices, etc. Schering-Kahlbaum A. G., Berlin, Germany. B. P. No. 349,257, filed April 25, 1930.

Hair Lotions and Creams

Sterols, such as cholesterol or a derivative thereof, which are activated by irradiation, are used in admixtures with such carriers as an alcohol or a cream base for use as tonic preparations for hair. Examples call for use of 0.1 to 0.5% of irradiated cholesterol, which is compounded with a salve base and dissolved in alcohol. L. Friedman. B. P. No. 347,126, filed January 9, 1930.

Solutions of Cholesterol and Esters

Glycerin or glycol is added to solutions of cholesterol or its esters. Cholesterol or an ester or mixture of both is dissolved in small amount of halogenated aliphatic hydrocarbons, such as chloroform, ethylene dichloride, trichloroethylene or carbon tetrachloride. Quantity of monovalent alcohol, such as 75% propyl alcohol, is added and further addition is made of glycerin or glycol. Any deposit or turbidity formed, may be redissolved by means of aqueous alcohol. Solutions obtained may be used for cosmetic purposes such as treatment of scalp. F. Pasek, Hamburg, Germany. B. P. No. 348,082, filed November 28, 1929.

Benziminazolone-Stibinic Acids

These are therapeutic products. An ortho arylenediamine-stibinic acid is treated with one molecule of a chloroformic ester. Thus for example 4-nitro orthophenylenediamine is diacetylated, reduced, diazotized, and converted into the diacetylstibinic acid which is hydrolyzed and condensed with ethyl chloroformate. I. G. Farbenindustrie A. G., Frankfort-on-Main, Germany. Germany. B. P. No. 343,744, filed February 19, 1930.

GERMAN PATENTS

Preparation of Paramenthone

Feature of process is that a chloromenthol mixture obtained by addition of hypochlorous acid to menthene, is heated for several hours at boiling point without any additions. Then reaction product is treated for few hours at 120° to 250° C. with solutions of hydrochloric acid in high percentage alcohols, for example menthol. In certain cases, pressure may also be used. Thus 25 parts of chloromenthol mixture is boiled on sand both with reflux condenser. Reaction product, somewhat cooled, is heated with solution of 50 parts of amyl alcohol and 25 parts of concentrated hydrochloric acid for 5 hours under reflux condenser, and then finally for ½ hour with 50 parts of 50% potassium hydroxide. Then greater part of amyl alcohol is removed by distillation, residue extracted with ether, and ether solution washed with water. Solution is dried over calcium chloride, ether is distilled, and also amyl alcohol, and finally product is distilled under vacuum and para-menthone-3 is obtained in main fraction. J. D. Riedel-E. de Haen A. G., Berlin-Britz, Germany. G. P. No. 493,482, filed November 29, 1927.

Perfumes from Cedar Wood Oil

Cedar wood oil or oils containing cedrene as well as cedrene itself is treated in known manner with oxygen or air in presence of catalyst and then product is decomposed by steam distillation. Thus cedrene from American cedar wood oil (density 0.940 at 15° C., angle of rotation of light −52°) is treated with oxygen in presence of cobalt resinate, as catalyst, for 48 hours at 30° C. Mass becomes more viscous as treatment progresses. Then it is finally distilled with steam. Distillation yields first unchanged cedrene, then somewhat more difficultly a semi-solid mass which sinks in water. This product of auto-oxidation of cedrene contains principally an unsaturated solid alcohol of composition $C_{15}H_{22}O$ of melting point 101° to 102° C. and a ketone, $C_{15}H_{22}O$ of melting point 32.5° C., which is cedrenone. Products are used in manufacture of perfume compositions and for cosmetic purposes. Vanillin Fabrik G.m.b.H., Hamburg-Billbrook, Germany. G. P. No. 499,455, filed March 5, 1929.

Innoculation Serum Against Tuberculosis

Infectious pus is injected into healthy cattle, pus coming from cattle which are diseased with tuberculosis. After incubation, cattle are injected with croton oil, subcutaneously. Pus formed at spot where injection takes place is removed, and coagulated. After sediment has been filtered and after ground periosteum substance has been added, combined cellular substratum is mixed with filtered pus serum. Carl Otto, Bielefeld, Germany. G. P. No. 516,403, filed December 7, 1926.

Suppressing Growth of Micro-organisms

A means for suppressing growth of micro-organisms consists of mixture of halogenated phenols or derivatives and alcohol esters of substituted aromatic carboxylic acids. In certain cases these compounds are combined with other substances used for preservation of decomposable materials and disinfectants. I. G. Farbenindustrie A. G., Frankfurt-am-Main, Germany. G. P. No. 516,485, filed November 23, 1928.

Complex Iron Salts As Drugs

Mono- or poly-basic polyoxycarbolic acids of pentane or hexane series or their salts are mixed with iron or iron compounds. In certain cases basic substances are added to convert product into neutral reacting compounds. Products are highly useful for pharmaceutical purposes. I. G. Farbenindustrie A. G., Frankfurt-am-Main, Germany. G. P. No. 514,504, filed May 1, 1929.

Calcium Salts of Natural Acids

Process is concerned with manufacture of calcium salts of acids that are contained in animal or vegetable fats and oils. Treatment of raw materials, which have previously been saponified with alkali, particularly such raw materials as cod liver oil, with calcium chloride is carried out in presence of finely divided substances. Latter may be formed when calcium salts are precipitated by chemical conversion. As finely pulverized substances there may be used therapeutically valuable substances, such as calcium phosphate, calcium carbonate, calcium citrate, etc., which are insoluble in water. Chemische Fabrik G.m.b.H., Berlin-Marienfelde, Germany. G. P. No. 511,947, filed April 10, 1929.

Polyglycosan

Grape sugar (glucose) is heated in presence of small amounts of acids at ordinary or diminished pressure or in atmosphere of inert gas with or without use of a diluent. Products obtained which are polyglycosan, are useful in therapy. F. Hoffmann La Roche & Co. A. G. Berlin, Germany. G. P. No. 513,126, filed February 29, 1928.

Metallic Halogenide Double Compounds of Leichtin

Alcoholic solutions of lecithin or mixtures containing lecithin are treated in any desirable order with alcoholic solutions of alkaline earth halogenides, particularly calcium halogenide, and with acetone. Precipitates obtained from solutions, are separated, dried and treated further. These lecithin-alkaline earth halogenide compounds obtained are converted into free lecithin after the lecithin-metallic salt double compounds have been decomposed. A very pure grade of lecithin is obtained. Gesellschaft fuer Chemische Industrie in Basel, Basle, Switzerland. G. P. No. 510,186, filed December 28, 1926.

Stomach Disinfectant

Equivalent quantities of 8-oxyquinolin, sulphuric acid and aluminum sulphate of magnesium sulphate are allowed to act upon one another in aqueous solution. Other solvents may also be present. Chinosolfabrik A. G., Hamburg-Billbrook, Germany. G. P. No. 513,127, filed January 31, 1928.

Abstracts

Assay of Cinchona Galenicals

According to method 2 g. of extractum cinchonae are washed into separatory funnel with 10 cc. of mixture of equal volumes of alcohol and water, 1 cc. of normal hydrochloric acid, 20 cc. of chloroform being added. After shaking, chloroform layer is run into second separator and washed with 5 cc. of normal sulphuric acid. Then first extraction is repeated, two additional quantities of chloroform being used. Chloroform layers are combined and washed with same acid liquor as in first case. Then 2½ cc. of sodium hydroxide solution are added to each separator. Contents of first are extracted with successive portions of 20 cc. of chloroform. Extracts are transferred in turn to second separator until alkaloids are completely removed. Mixed extracts are washed with water and chloroform removed by distillation. Five cc. of alcohol are added and evaporated product dried at 100° C. and weighed. Method, which is but slightly varied for other cinchona preparations, is claimed to overcome emulsification difficulties. P. A. W. Self and C. E. Corfield, Pharm. Jor., 1931, volume 127, page 74

Extraction of Lemon Oil

Oil contained in acid liquid from lemon presses, is acted upon by Bonelli apparatus which is provided with plate fractionating column. Acid liquor contains about 15 g. of essential oils (90% of limonene) per liter together with other volatile and non-volatile substances and some vegetable debris. Process is continuous, enymic and bacterial action has not time to develop. Less water also needs to be distilled with consequent great fuel economy. P Leone, Annali Chim. Applicata, 1931, volume 21, pages 259-268.

Oil of Eucalyptus Dives

Two samples of oil were tested to determine physical and chemical properties. Density varied from 0.9194 to 0.8936 at 20° C.; index of refraction was 1.4858 in one case and 1.4808 in another at 15° C.; rotation of light −41.44° and −56.8°. Samples were mixed together and unsaponifiable matter (amounting to 90%) was separated and fractionally distilled under reduced pressure. From oxygen-containing fractions, boiling between 72° and 210° C. at 12 to 14 mm., piperitone, terpinen-4-ol, and an acid, probably $C_{18}H_{34}O_3$, melting point 109° to 112° C., were isolated. Piperitone, which is readily separated in form of its compound with sodium hydrogen sulphite, was easily oxidized to thymol by ferric chloride and aqueous acetic acid. Other oxidizing agents, with exception of potassium permanganate in neutral solution which gave di-isophenol, melting point 81° C., gave negative results. K. Stephen and M. Duecker, Journal fuer prakt. Chemie, 1931, Series II, 129, pages 145-150.

Concentration of Alcohol in Tinctures

Investigation was concerned with effect produced by varying concentration of alcohol in tinctures. Tests were carried out with digitalis purpurea, from which tinctures were made with 35, 62.5 and 90% alcohol. These tinctures contain approximately same digitoxin content. Use of 35 to 40% alcohol is to be preferred since tincture obtained withstands dilution without becoming turbid better than with more concentrated alcohol. Furthermore, tincture obtained with this concentration of alcohol contains less inert or disturbing dry residue. I. M. Perino, Boll. Chim. Farm., 1931, volume 70, pages 489-492.

Oils from Garlic and Horseradish

An oil is obtained by distillation of garlic with steam. Yield is approximately 0.005 to 0.01%. Distillation causes conversion of sulphur-containing glucoside, contained in garlic and known as alliin, into laevulose and garlic oil due to presence of an enzyme, allisin or allisan. Garlic oil is yellow in color; specific gravity 1.046 to 1.057. It is optically inactive and contains several sulphur-containing substances, principally 6% of allyl-propyl sulphide, as well as allyl trisulphide and allyl tetrasulphide. Allyl trisulphide is the sole cause of odor.

Horseradish oil is obtained from root by distillation with steam. It is colorless, consists of allyl isocyanate just like mustard oil. Medicament for treating gallstones is obtained by distilling mixture of 125 parts each of horseradish and orange peel with three parts by weight of nutmeg in 625 parts by weight of alcohol and 750 parts by weight of water. Horseradish contains vitamin C and has been found useful in treating bleeding gums. Dr. Rheinlaender. Das Drogisten Fachblatt, October 1931, page 18.

On Mitraphyllin

This is an alkaloid found in bark of tree mitragyne macrophylla. Bark was moistened with alcohol which contained ammonia, and extracted with chloroform. Alkaloid was found to have formula: $C_{36}H_{37}N_5O_6(OCH_3)$; melting point 262° to 263° C. Hydrochloric acid solution has blue fluorescence. It is inactive on polarized light. It does not have pronounced basic character. L. Michiels, Journal de Pharmacie de Belgique, 1931, pages 719 to 723.

Saponin of Tea

The saponin. $C_{52}H_{82}O_{27}$, was extracted from degreased seeds with alcohol at 80°C. After purification, fusion point is 215° C. accompanied by slight decomposition. Saponin is not reduced by Fehling's reagent and is not precipitated by lead acetate. It has the characteristics of monolactone-carboxylic acid. When hydrolyzed, following products are obtained: arabinose, galactose, glucose and a prosapogenine, $C_{35}H_{52}O_{12}$. Latter is converted by stronger hydrolysis into glycuronic acid and a eusapogenine, $C_{29}H_{44}O_6$. It has a hemolytic action. S. Aoyama, Journal of the Pharmaceutical Association of Japan, 1931, no. 591.

Ipecac Preparation Preservation

Author confirms earlier experiments which led to conclusion that presence of acid is essential for preparation and preservation of fluid extracts and infusions. It has been found that when insufficient strength of acid is added, preserving action is not satisfactory. Acid should be retained in part in solid residue after pressing. The pH of infusions should be 4.5 to 4.3. Ordinary infusion can be readily preserved provided strength of acid used is sufficient. E. Hoest Madsen, Pharm. Zeit., 1931, number 64, page 901.

Examination of Calcium Lactate

Composition of salt varies—sometimes alkaline and other times acid. Method for testing salt consists in dissolving decinormal solution of soda using phenol-1 g. of calcium lactate in 20 cc. of phthalein as indicator. No more than 0.6 cc. of alkaline solution must be used. Neutralized solution is treated with 5 cc. of decinormal solution of soda and heated on a water bath for 10 minutes. After cooling, solution is titrated with decinormal solution of hydrochloric acid until rose color disappears. At least 25 cc. of acid should be used. In order to prepare a salt which meets these requirements, dilute lactic acid is neutralized by means of an excess of lime and mixture is heated for ninety minutes. After cooling, excess lime is precipitated with current of carbon dioxide and mass filtered. Filtrate is evaporated and carbonate, which may have been deposited after lapse of time, is filtered. Lactate is then crystallized from solution, and dried at 50° C. R. Eder and J. Buechi, Pharm. Acta Helv., 1931, numbers 5-6.

Iodine in Pharmaceuticals

Iodine ion is converted into iodate ion by means of chloramine in acetic acid solution in presence of sodium acetate. Excess of chloramine added is destroyed with formic acid in presence of alkaline

bromide. Proportions of solutions used are: 8 to 10% of chloramine in water; 30 cc. of acetic acid, 15 g. of sodium acetate, 2 g. of sodium bromide in 100 cc. of water. Convenient quantity of neutral solution containing iodide is mixed with 10 cc. of second solution and chloramine solution is added until mixture becomes turbid. Then 25% formic acid is added and turbidity allowed to disappear. Iodine is titrated in usual manner by addition of iodide. This method can be used when iron is present, for iron is converted into a complex form due to presence of acetic acid. F. Viebock and C. Brecher, Pharmazeutische Monatschrift, 1931, number 6.

Larocaine Roche

This is a new preparation used as cocaine substitute. It is the hydrochloride of 1-para-aminobenzoyl-2:2-dimethyl-3-diethylaminopropanol, and comes in form of white powder, stable, and unaffected by light and keeping well in sterile solution. It is solutble in one to three parts of water at 20° C. and very soluble in boiling water. It is soluble in alcohol in cold in ratio of 1:10 and in hot in ratio of 1:5; it is insoluble in ether, fats and oils. Its melting point is 196° to 197° C. Its solution can be sterlized by boiling and then is kept in a brown glass. It is advisable to add adrenalin just at moment it is used. It is employed as local anaesthetic in doses of 0.25 to 10%, 2 to 5% in ophthalomogy. Apotheker Zeitung, 1931, number 59.

Menthol Crayons

It is essential to employ a pure menthol in making menthol crayons and to avoid addition of fatty substance. Addition of 1 to 2% of camphor is advisable to make crayons firmer. Camphor is melted with menthol. Recommended composition contains 100 parts of menthol, 10 parts of benzoic acid and 3 parts of eucalyptol. Pharmazeutische Zeitung, 1931, no. 61.

Detecting Artificial Peru Balsam

One gram of balsam is shaken with 10 cc. of petroleum ether. Solution is poured off and evaporated on water bath. Few drops of nitric acid are allowed to run carefully into residue which is recovered after evaporation. Deep yellow ring forms around added drops of nitric acid when balsam is true natural product, and greenish ring which later turns reddish brown in color, is obtained with adulterated or artificial balsam. Pharm. Weekblad, 1931, number 2.

Greaseless Day Cream with Luster

One hundred and eighty parts of saponification stearin are mixed with 18 parts of pure potash, 300 parts of glycerin (28° Be.), 40 parts of lanolin, 10 parts of white wax and 1,600 parts of water. One or two per cent of perfume is added. Cream is stirred until cold and then treated in three-roller mill. It is allowed to remain in cool place for few days, and again treated in mill. Mother-of-pearl luster is developed on addition of little alcohol after saponification and subsequent treatment. Der Parfuemeur, 1931, page 704.

Assay of Drugs Yielding Essential Oils

Quantity of drug sufficient to produce 2 to 3 g. of volatile oil, is distilled under reflux condenser with 500 cc. of water into receiver which also contains water and 5 cc. of light petroleum. After 6 hours distillation, petroleum extract is filtered, evaporated on water bath at 80° C. in current of air. Mass is dried over sulphuric acid and weighed. Results agree fairly well with those obtained by large scale distillations. G. R. A. Short, Pharmazeutical Journal, 1931, volume 127, pages 84 to 85.

Fluorescence of Orange Flower Water

Fluorescence in Wood's light is measured. This gives an index of the quantity of methyl anthranilate present, limit of visibility being 1 mg. per liter. This method affords means of distinguishing between flower water and leaf water. F. Gregoire and J. Ripert, Ann. Falisif., 1931, volume 24, pages 290 to 295°.

Perfumed Printing Ink

Use of essential oils and aromatics for perfuming printing inks is discussed from technical and utility standpoints. Properties of printing inks are described, particularly in relation to selection and use of perfumes. Causes of bad odors of inks are outlined. Use of paradichlorobenzene for giving inks a characteristic odor is decried and odor is called too sharp, "chemical" in nature. Amount of essential odor added may be sufficient just to hide natural odor of ink or it may be sufficient to give ink a characteristic odor depending on nature of perfume used. Dr. Bark Riechstoff Industrie, 1931, pages 144-6; 158-160.

Physiologically Active Quinazoline Derivatives

The 3:4-Dihydroquinazolines, carrying in position 6 either no substituent or an alkyl or alkoxy group, and in position 3 either phenyl or para-alkyl or para-alkoxy-phenyl, yield quaternary bases valuable as local anaesthetics (Alkoxy compounds) or for lowering blood pressure (alkyl and hydroxyalkyl compounds). If the 6-substituent is absent the N-alkyl of the quaternary base should be at least C_2. Thus 6-Nitro-3-ethoxybenzaldehyde, melting point 62° C. is condensed with para-phenetidine to a Shiff's base, melting point 92° C., which is reduced to the amine, melting point 156° C., and further to 2-amino-5-ethoxybenzyl-paraphenetidine, melting point 81° C. This compound is then acted upon by formic acid and the corresponding quinazoline is obtained, having melting point of 140° C. Societa Anonima Ledoga Prodotti Chimici e Farmaceutici. B. P. No. 346,118, filed May 30, 1929.

Solutions of Acetylchlorine Salts

Solutions of acetylcholine salts, such as the hydrohalides, in incompletely acylated poyhydric alcohols, such as in glycero mono-acetate, glycerol di-acetate or beta-hydroxyethyl acetate, are stable cold or hot and are thus suitable for injections. Societe des Usines Chimiques Rhone-Poulenc, Paris, France. B. P. No. 345,713, filed January 13, 1930.

Therapeutic Active Agent

Silver oxide made alkaline with ammonia is allowed to act on starches at an elevated temperature. Operation is carried out until silver oxide is entirely or partially reduced with simultaneous oxidation of corresponding portion of the starch. Physiologisch-Chemisches Laboratorium Hugo Rosenberg, Freiburg, Br., Germany. G. P. No. 515,061, filed October 18, 1927.

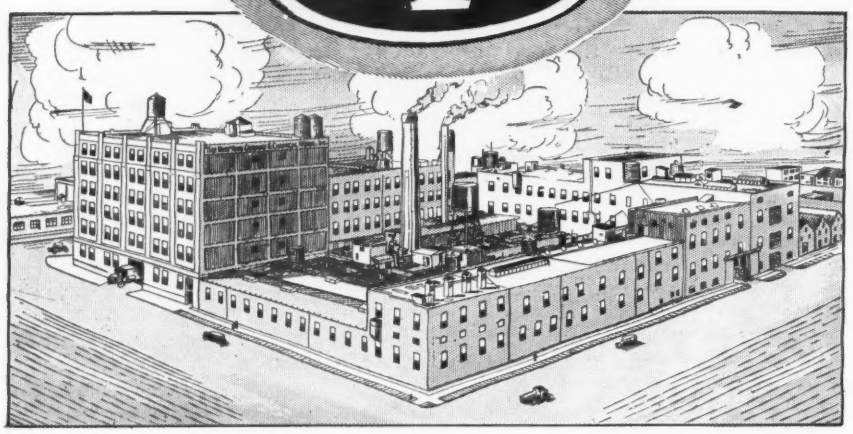
MISCELLANEOUS PATENTS

Camphene From Pinene Hydrochloride

Pinene hydrochloride is heated in presence of excess alkali or alkaline earth with phenolate in aqueous solution at 165° C. Excess of pinene hydrochloride must be maintained. Thus 172 parts of pinene hydrochloride in admixture with 95 parts of 98% phenol, 90 parts of caustic soda and 45 parts of water are gradually heated in autoclave to 165° C. Camphene is distilled off after six hours. Liquor remaining in autoclave, is freed from sodium chloride by crystallization and centrifuging and phenolate is used again. L. ed Moltke-Huitfeldt and H. Gammay. F. P. No. 675,125, filed October 6, 1928.

Emulsifiable Essential Oils

Essential oils are mixed with extract of chamomille made with aqueous extracting medium. Thus for example, 50 parts of an alcoholic-aqueous chamomille extract prepared with small quantity of ammonia, is stirred with two parts of a 20% alcoholic extract of chamomille. A clear solution is formed. An addition of 2 parts of 20% solution of thyme oil may be made, and solution obtained still remains clear on addition of water. Various salve oils may also be added. Or else essential oils may first be dissolved in soaps and then added to extract. Extracts are suitable for preparation of salves, pastes and tablets. F. Weill, Zurisch. Austrian Patent No. 117,599, filed July 6, 1927.



BIRD'S-EYE VIEW OF PLANT AND RESEARCH LABORATORIES

IODINE

COURTOIS, a saltpetre maker of Paris, who discovered Iodine, obtained it from the kelp liquors which were used to furnish the Potash required for making saltpetre.

Kelp, from which Iodine was made, is the slag obtained by burning seaweed in long, shallow pits. Kelp liquors were for many years the commercial source of IODINE.

By far, the greater bulk of Iodine produced is now extracted from the mother liquor of the Sodium Nitrate industry in Chile. The greater part of the Iodine of commerce is converted into Potassium Iodide which is used by the medical profession in the treatment of a number of diseases.

Recently a small proportion of Potassium Iodide has been mixed with a number of brands of table salt for the prevention of goitre.

Potassium Iodide has been manufactured for over 30 years by the New York Quinine and Chemical Works, and is produced in a greater degree of purity than that specified by the U. S. P.

MANUFACTURERS OF

Acetanilid
Bismuth Subnitrate
Bismuth Subcarbonate
Cinchonine
Cinchona Alkaloids
Cinchophen
Codeine Sulphate
Codeine Phosphate
Cinchonidine
Morphine Sulphate
Ethyl Morphine
Iodoform
Glycerophosphates
Opium
Potassium Iodide
Quinine Sulphate
Quinidine
Thymol
Salicylates
Strychnine
Bromide of Soda
Bromide of Potash
Bromide of Ammonia
Silver Salts
Menthol-Y (*trade mark reg.*)
Vanillin

In bulk for manufacturers and in packages for wholesale trade

THE NEW YORK QUININE & CHEMICAL WORKS INC.

GENERAL OFFICES

99-117 North Eleventh Street, New York, Borough of Brooklyn

ST. LOUIS DEPOT, 304 SOUTH 4TH ST., ST. LOUIS, MO.

Prices Current

Medicinal, Aromatic, and Photographic Chemicals, Crude Drugs, Spices, Essential Oils and Concentrates, Miscellaneous Raw Materials, etc.

Chemical prices quoted are of American manufacturers, spot New York, f. o. b. for immediate shipment, unless otherwise specified.

Products sold f. o. b. works are so specified. Imported chemicals are so designated. Resale stocks, when a market factor, are indicated "second hand."

Crude Drugs and Essential Oils are quoted f. o. b. New York (Manhattan with limitations) for immediate shipment

The range of price given is not "bid and asked," but are prices of different sellers, based on varying grades and/or quantities. Containers named are original packages most commonly sold.

Acetanilid
Hyoscyamine Alk.

Chemicals

Acetanilid, USP, 200 lb bbls..lb	.24	.25
Acetone, pure 350 lb drs wks..	.12	.14
Acetphenetidin, 225 lb bbls..lb.	1.25	1.30
ACID, Acetylsalicylic, 225 lb ....bbls.	.75	.80
Agaric, 1 oz vials .....oz	...	3.50
Arsenous, USP, 220 lb bbls lb.	...	.18
Benzoic, USP, 100 lb bbls.lb.	.60	.61
Boric, 300 lb bbls.....lb.	.09½	.10
Cacodylic, 5 lb. bot.....lb.	...	8.00
Camphoric, USP, VIII 1 lb bot.....lb.	4.82	4.82
Carbolic, USP, crys 112 lb tins.....lb.	.17	.18
Cinnamic, 5 lb cans.....lb.	3.25	3.50
Citric, USP, crys 230 lb bbl .....lb.	...	.35
USP, crys imp. 112 lb keg .....lb.	.41	.43
USP, powd 200 lb bbl...lb.	...	35½
Gallic, USP, 150 lb bbls..lb.	...	.74
Glycerophosphoric, 25% 1 lb bot.....lb.	1.40	1.75
Hydriodic, USP, 10% 5 lb bot.....lb.	...	.70
Hydrobromic, USP, 40% 155 lb. cbys.....lb.	...	.55
Hypophosphorous, USP, 30% .....lb.		
5 gal demis.....lb.	...	.85
Lactic, USP, VIII 100 lb cbys lb.....	.53	.59
USP, X 100 lb cbys.....lb.	.57	.59
Phenylcinchonic.....lb.	...	3.25
Phosphoric, USP, Syr 70 lb drs.....lb.	.14	.15
Pyrogallic, crys 5 lb cans..lb.	1.30	1.40
Resublimed, 5 lb cans...lb.	1.60	1.70
Salicylic, USP, 100 lb bbls.lb.	.40	.45
Stearic, double pressed, bags .....lb.	.09	.10
Triple pressed, bags,....lb.	.11	.12
Succinic, 100 lb bbls.....lb.	...	1.35
Sulfurous, USP, 6% 100 lb cbys.....lb.	.05	.06
Tannic, USP, fluffy 50 lb bbls. .....lb.	.90	.93
Powd 200 lb bbls.....lb.	.80	.85
Tartaric, USP, 300 lb bbls.lb	.26½	.27½
Aconitine, Alk, crys 1 oz vials .....oz.	...	30.00
Amorphous, 1 oz vials....oz.	...	20.00
Adeps Lanae, hyd 350 lb bbls lb.	.13	.15
Anhydrous, 350 lb bbls....lb.	.14	.16
Agaricin, 1 oz vis incl.....oz.	...	2.32
ALCOHOL, Benzyl, 5 lb bot lb.	1.20	1.35
Ethyl, USP, 190 pf 50 gal bbls.....gal.	...	2.56
Grain U. S. P. bbls....gal.	...	2.61
Pure tax free drums...gal.		
Ethyl.....	...	.42
Grain.....	...	.47
Denatured, (drums included) add 5c for bbls.		
No. 1 spec.....gal.	.27	.35
No. 5 comp.....gal.	.28	.36
23 a, spec.....gal.	.30	.38
39 b, spec.....gal.	.33	.47
40 m, spec .....gal.	.28½	.42½
Isopropyl refd 98-99% drs. incl.....gal.	.55	.60
Phenylethyl, 1 lb bot.....lb.	4.30	4.50
Aloin, USP, 100 lb cases....lb.	1.41	1.44
Aluminum Acetotartrate kegs .....lb.	...	1.60
Amidipyrine, 10 lb boxes....lb.	4.00	4.10
AMMONIUM, Acetate 100 lb kegs.....lb.	.38	.40
Benzoate, USP, 1 lb bot...lb.	...	1.27
Borate, 10 lb bot.....lb.	...	.35
Bromide, USP, 450 lb bbls.lb.	.38	.39
Imported, 112 lb boxes..lb.	.39	.41
Carb, USP, lump 100 lb kegs .....lb.	...	.13½
USP, powd 100 lb kegs..lb.	...	.14½
Citrate, 100 lb kegs.....lb.	.90	1.30
Ichthyolate, as to brand..lb.	4.00	4.50
Iodide, USP, 25 lb jars...lb.	...	5.20
Phosphate, dibasic 250 lb bbls .....lb.	.48	.50
Salicylate, USP, 100 lb kegs .....lb.	1.15	1.20
Valerate, USP, 25 lb jars...lb.	2.75	2.90
Amylene Hydrate, 1 lb bot..lb.	...	7.10
Antipyrine, USP, 100 lb cans.lb.	2.25	2.60
Apomorphine Hydrochloride, ¼ oz. vials.....oz.	22.60	22.70
Arecoline Hydrobrom, 1 oz vials .....oz.	5.25	5.35
Aspidospermine Amorphous..oz.	...	15.00
Atropine Alk, USP, 1 oz. vials .....oz.	6.50	7.00
Methyl bromide, 1 oz vials.oz.	...	25.00
Sulfate, 5 oz cans.....oz.	...	2.50
Single ounce.....oz.	...	3.00
Barbital, 1 lb. bot.....lb.	4.00	4.35
Barium Iodide, 5 lb box.....lb.	...	5.15
Sulfate, X-ray diagn bbls..lb.	.09½	.10
BAY RUM Porto Rico, 45 gal. bbls.....gal.	.75	.80
Domestic syn. 50 gal bbl..gal.	.70	.75
St. Thomas, 50 gal bbls...gal.	.80	.90
Benzonaphthol, 5 lb boxes...lb.	2.50	2.60
Benzoyl Cholride, 500 lb dr..lb.	1.00	1.05
Benzyl Benzoate, Medicinal FFC.....lb.	1.20	1.40
Chloride Redis, 160 lb cby.lb.	.30	.35
Formate, 1 lb bot.....lb.	3.25	3.50
Succinate, 160 lb cby.....lb.	...	5.25
BISMUTH, metal 100 lb cases .....lb.	...	1.25
Ammon. Citrate, USP, 5 lb cans.....lb.	...	3.25
Betanaphtholate, 5 lb box.lb.	...	2.90
Citrate, USP, 5 lb cans....lb.	...	2.60
Chloride.....lb.	...	3.00
Hydroxide.....lb.	...	2.90
Nitrate, 25 lb jars.....lb	...	1.15
Oxide anhydrous.....lb.	...	3.25
Oxychloride, 25 lb boxes...lb.	...	2.80
Salicylate, 25 lb boxes.....lb.	...	1.65
Subcarbonate, USP, 25 lb boxes.....lb.	1.55	1.60
Subcarbonate, X-ray diag 1 lb. bot.....lb.	2.50	2.57
Subgallate, USP, 25 lb boxes .....lb.	1.65	1.70
Subiodide, 5 lb lots.....lb.	...	4.10
Subnitrate, USP, 25 lb jar.lb.	1.35	1.40
Subsalicylate, USP, 25 lb boxes.....lb.	2.45	2.50
Tannate.....lb.	...	2.30
Borax, crys USP, 400 lb bbls.lb.	...	.06
Bromoform, USP, 5 lb bot cases .....lb.	1.65	1.90
Butylchloral Hydrate bot....lb.	4.00	5.00
Cadmium iodide, 10 lb bot...lb.	...	4.55
CAFFEINE Alk, USP, 1..... 100 lb kegs.....lb.	2.45	2.50
Citrated, 50 lb cans.....lb	2.20	2.45
Hydrobromide, 1 lb bot...lb.	4.80	5.00
Hydrochloride, 1 lb bot...lb	6.05	6.55
Sulfate, 1 lb bot.....lb.	5.40	5.90
Sodium Benzoate, tins....lb.	...	3.05
Salicylate, tins.....lb.	...	2.95
Calcium Bromide, 100 lb cs..lb.	...	.00
Carb, USP, 175 lb bbls....lb.	.05	.06
Gluconate, Gran 50 lb dr. lb.	...	.30
Powd.....lb.	...	.32
Glycerophos, 250 lb bbls...lb.	...	1.05
Hypophos, USP, 25 lb cans lb.	.55	.60
Iodide, 5 lb bot.....lb.	...	4.85
Lactate, USP, 500 lb bbls lb.	.45	.50
Lactophosphate Soluble...lb.	...	1.20
Powdered tins.....lb.	...	1.00
Insol, powd tins.....lb.	...	.50
Phosphate & Sulfate Tooth Paste grade, Works..lbs.	.03	.06
Sulfide, USP, 100 lb drs...lb.	.21½	.24
CAMPHOR, Jap. ref. slabs 100 lb. cases.....lb.	.52½	.53
Refined powd.....lb.	.53½	.54
½ oz tab, 100 lb cases....lb.	.66	.67
Liniment, bbls.....gal.	2.10	2.20
Monobrom, 100 lb cases...lb.	1.60	1.65
Casein edible, 100 lb kegs...lb.	.45	.55
Charcoal Animal medicinal jars incl.....lb.	...	.50
Charcoal Wood, powd, 100 lb. bbls.....lb.	.06	.07
Chloral Hydrate, USP, 25 lb iars.....lb.	.78	.80
100 lb drums.....lb.	.73	.75
Cholesterin.....lb.	10.25	11.00
Chloroform, USP, 50 lb drs...lb.	.25	.27
Chlorophyll, 1 lb. bot.....lb.	2.12	2.30
Chromium Sulfate Scales, tins .....lb.	.45	.50
Powdered tins.....lb.	.50	.55
Chrysarobin, 50 lb tins.....lb.	3.75	4.10
Cinchonine Alk, 100 oz tins..oz.	...	.34
Crystal.....oz.	.43	.46
Sulfate, 100 oz tins.....oz.	...	.23
Cinchonidin Sulfate, 100 oz tins .....oz.	.32	.35
Cincophen, U.S.P. kegs....lb.	...	2.75
Cocaine Alk, USP, 1 oz vial..oz.	...	11.07
Hydrochloride, USP,.....oz.	...	8.50
CODEINE Alk, 1 oz vials, 10 lots.....oz.	...	10.52
Hydrobromide.....oz.	...	8.92
Hydrochloride.....oz.	...	9.52
Nitrate, oz vl 10 oz lots....oz.	...	9.80
Phosp. oz vl, 10 oz lots....oz.	...	7.92
Salicylate.....oz.	...	8.25
Sulfate, oz vl, 10 oz lots...oz.	...	8.42
Colchicino Alk, USP, 1 oz vl.oz.	...	20.00
Salicylate, 1 oz vls.....oz.	...	35.50
Cream Tartar, USP, 300 lb bbls .....lb.	.21½	.21½
Imp. powd. 224 lb bbls....lb.	.21	.21½
Creosote, USP, 42 lb cbys....lb.	.45	.47
Carbonate, 150 lb.....lb.	1.50	1.60
Cresol, USP, 400 lb drums...lb.	...	.18
500 lb drums.....lb.	.12	.15
DIGITALIN Pure, 1 oz vial..oz	15.00	15.50
Dover's Powder, USP, 5 lb tin .....lb.	2.75	2.80
Duboisine Sulfate, 1 oz vl....oz.	35.00	40.00
Emetine Alk, 15 gr vial.....oz.	...	.85
Hydrochloride, USP, 1 oz vl .....oz.	25.00	26.00
15 grain vials.....oz.	2.50	2.70
Ephedrine, alk. 25 oz. tins, ..oz.	2.90	3.45
Hydrochloride, 25 oz. tins, oz.	2.25	2.70
Sulfate, 25 oz. tins.....oz.	2.25	2.70
Epsom Salts, USP, 200 lb bbls .....100 lb.	2.25	2.50
Imp. 100 lb bbls.....100 lb.	2.30	2.35
Ergotin Bonjean, 1 lb jars...lb.	18.50	19.00
Eserine Alk, 1 oz vials.....oz	...	50.00
Salicylate, 1 oz vials.....oz.	...	40.00
Sulfate, USP, VIII 1 oz vials .....oz.	...	40.00
ETHER, USP, 55 lb drums..lb.	...	.11
Anaesthesia, 55 lb drums..lb.	.21	.23
Nitrous, 1 lb bot.....lb.	...	.80
Ethyl Chloride, 200 lb bot...lb.	.22	.24
Ethyl Iodide, 5 lb bot.....lb.	...	6.25
Formaldehyde, USP, 100 lb cbys lc-l wks.....lb.	.07	.07½
Gall Extract.....lb.	.20	.21
GLANDULAR SUBSTANCES Duodenal Substance, 1 lb lots	...	4.75
Liver Substance (Hepatic) 1 lb lots.....	...	4.25
Orchic Substance (Testicular)	...	3.75
Ovarian Substance, whole, 1 lb lots.....	...	16.50
Ovarian Residue, 1 lb lots....	...	12.00
Pituitary Substance, whole 1 lb lots.....	...	34.50
Pituitary Substance, Anterior Lobe, 1 lb lots.....	...	23.50
Thyroid, U. S. P., 1 lb lots...	...	3.75
Oxgall Powder, 1 lb lots.....	...	1.25
GLYCERIN, CP, 550 lb drums .....lb.	...	.11¼
Gold Chloride, bottles.....oz.	12.00	12.50
Guaiacol, liq. USP. 100 lb. cbys.....lb	1.65	1.75
Crystals.....lb	2.25	2.50
Benzoate, 1 lb bottles.....lb.	...	13.00
Carbonate, 5 lb boxes.....lb.	1.70	2.50
Halazone, 5 lb bot.....lb.	2.75	3.25
Hexamethylenetetramine, USP, 100 lb dr.....lb.	.46	.47
Homatropine Hydrobrom USP. .....oz.	...	14.50
5 oz and 1 oz vials.....oz.	...	13.50
Hydrastine Alk, USP, 1 oz vial .....oz.	20.50	21.00
Hydrochlide, USP, 1 oz vials .....oz.	20.50	21.00
Sulfate, 1 oz vial.....oz.	22.50	23.00
Hydrastinine Hydrochloride, USP, 15 gr vials.....oz.		40.00
Hydrogen Peroxide, USP, soln 375 lb bbls.....lb.	...	.04½
Hyoscine Hydrobrom, USP, 1 oz vials.....oz.	.03½	35.00
5 oz, 1 oz vials.....oz.	13.07	13.57
Hyoscyamine Alk, crystals, 1 oz vials.....oz.	...	25.07
Amorphous, 1 oz vial...oz.	...	75.07

Hydrobromide, USP, 1 oz vial ... oz.	...	25.00
Sulfate, 1 oz vial ... oz.	...	25.07
Hypoquinone, 100 lb kegs ... lb.	...	1.10
ICHTHYOL, tins ... lb.	4.00	4.25
Iodide Arsenous, 5 lb bot ... lb.	...	5.20
Arsenous-Mercuric soln, 5 lb bot ... ql	...	.26
Iodine, crude, 200 lb kegs ... lb.	4.35	4.35
Resublimed, 10 lb tars ... lb.	4.65	4.70
Tincture demis ... gal.	...	4.20
Iodoform, powd 10 lb bot ... lb.	...	6.50
Iron & Ammonium Citrate, USP, 50 lb cans ... lb.	.65	.66
Chloride, USP, lump 400 lb bbls ... lb.	.06	.08
Citrate, USP, VIII 25 lb can ... lb.	.94	.99
Hypophosphite, 5 lb cans ... lb.	1.55	1.65
Iodide, 1 lb bottles ... lb.	...	4.28
Phosphate, USP, 50 lb cans ... lb.	...	.69
& Potas Oxalate, 250 lb bbl ... lb.	...	.45
Pyrophosphate, USP, 50 lb ... lb.	.74	.80
& Sod Oxalate, 50 lb cans ... lb.	...	.30½
Sulfate, USP, crys bbls ... lb.	.04	.04½
Ferrous dried bbls ... lb.	...	.08
Valerate, tins ... lb.	2.75	3.00
Jalap Resin, USP lumps, 5 lb tins ... lb.	...	4.00
Powdered, tins ... lb.	...	4.65
Lead Acetate, USP, 100 lb kegs ... lb.	.16½	.19½
Iodide, USP, VIII 5 lb bot ... lb.	3.20	3.40
Lecithin, 5 oz jars ... oz.	1.00	1.30
Licorice Ext Mass, cases ... lb.	.19	.20
Compound powder, bbls ... lb.	.11	.13
LITHIUM CARBONATE, 250 lb bbls ... lb.	1.35	1.45
Citrate, USP, 100 lb kegs ... lb.	...	1.70
Iodide, 5 lb bottles ... lb.	...	5.65
Lobeline Sulfate, ¼ oz vial ... oz.	...	8.75
Magnesium Carbonate, USP, 100 lb bbls ... lb.	.08	.09
English, oz blocks ... oz.	.16	.18
Glycerophosphate, 5 lb tins ... lb	3.20	3.25
Hypophosphite, 5 lb cans ... lb.	1.15	1.20
Salicylate, 100 lb kegs ... lb	...	1.10
Stearate, bbls ... lb.	.23	.25
Manganese Glycerophosphate, 5 lb tins ... lb.	2.90	3.00
Hypophosphite, USP, VIII 5 lb cans ... lb.	1.35	1.40
Iodide, 1 lb bottles ... lb.	6.40	6.65
MENTHOL, USP, 60 lb cases ... lb.	3.45	3.75
Synthetic, cases ... lb.	3.00	3.10
Mercury Metal, 75 lb flasks ... fl.	73.00	74.00
Bichloride, crys 25 lb box ... lb.	...	1.24
Gran powd, 100 lb kegs ... lb.	...	1.09
Bisulfate, 25 lb boxes ... lb.	...	1.48
Blue Mass, 25 lb boxes ... lb.	...	.89
Powd, 25 lb boxes ... lb.	...	.90
Blue Ointment, USP, 50%, 25 lb cans ... lb.	...	1.09
Mild 30%, 25 lb cans ... lb.	...	.79
33 1/3% mercury ... lb.	...	.94
Calomel, 50 lb boxes ... lb.	...	1.59
English ... lb.	2.65	2.75
Iodide, green, 25 lb jars ... lb.	...	4.68
Red, USP, 25 lb jars ... lb.	...	4.77
Yellow, USP, VIII, 25 lb jars ... lb.	...	4.68
Red precip Powd. USP, 25 lb boxes ... lb.	...	1.72
White precip, Powd., USP, 25 lb. boxes ... lb.	...	1.67
Salicylate, 25 lb bot ... lb.	...	2.32
With chalk, USP, 25 lb boxes ... lb.	...	.93
Methanol, Pure 1c-1 drs ... gal	...	.44
Methyl Salicylate, USP, 50 lb cans ... lb.	.40	.42
Methylene Blue, USP, med 5 lb cans ... lb	2.00	2.05
Milk powd, 150 lb bbls ... lb.	.09	.12
MORPHINE Alk, 5 oz tin ... oz.	10.90	10.95
Acetate, 5 oz tins ... oz.	8.75	8.80
Hydrobromide, 5 oz tins, 10 oz lots ... oz.	8.75	8.80
Hydrochloride, 5 oz tins, 10 oz lots ... oz.	8.75	8.80
Ethyl Hydrochloride, 5 oz tins 10 oz lots ... oz.	...	10.85
Sulfate, 5 oz tins, 10 oz lots ... oz.	7.85	8.00
Naphthalene Flake, 175 lb bbls wks ... lb.	.04½	.05
Balls, 250 lb bbls wks ... lb.	.05½	.06
Oxgall, Purified, 5 lb bot ... lb.	1.75	2.50
USP, 5 lb bot ... lb.	2.00	2.50
Oxyquinoline Sulfate, tins ... lb.	8.50	9.25
Pancreatin, USP, 100 lb ... lb.	...	1.90
Paraffin, refd, 200 lb cs slabs 118-120 deg MP ... lb.	.08	.09
128-132 deg MP ... lb.	.07½	.07¾
Para-Aldehyde, USP, 100 lb carboys ... lb.	.48	.50
Pepsin, USP, 100 lbs. 1:3000 ... lb.	...	2.25
100 lbs. 1:6000 ... lb.	...	4.00
100 lbs. 1:10000 ... lb.	...	6.50
Peptone, powd, 5 lb bot ... lb.	...	1.50
PHENOBARBITAL, U. S. P., 1 lb. bot ... lb.	9.50	10.00
Phenolphthalein, U. S. P. ... 100 lb drums ... lb.	.80	.82
5 lb cans 100 lb lots ... lb.	.88	.93
Pilocarpine Hydrochloride, USP, 1 oz vials 25 oz lots ... oz.	...	3.25
Nitrate, 25 oz lots ... oz.	...	3.25
Single ounce ... oz.	...	3.50
Alkaloid, 15 gr vials ... vl.	...	.75
Piperadine, 25 oz bottles ... lb.	...	8.00
Popodhyllin 5 lb bottles ... lb.	4.35	4.50
Potassium Acetate, USP, 100 lb kegs ... lb.	.29	.30
Bicarb, USP, crys 320 lb bbls ... lb.	.09½	.10
Bromide, USP, crys 100 lb cs ... lb.	.34	.35
Citrate, USP, 50 lb bbl ... lb.	.42½	.43
Guaiacol Sulfonate ... lb.	1.95	2.25
Potassium Hypophosphite, 10 lb. cans ... lb.	.75	.80
Iodide, USP, 100 lb cases ... lb.	3.50	3.55
Lactophosphate, 4 ox bot ... lb.	...	.90
Permangan, USP, crys, 100 lb drs wks ... lb.	.15	.15½
Phosphate dibasic pure, kegs ... lb.	...	.49
Salicylate, 25 lb cans ... lb.	...	1.18
Sulfate, USP, VIII, 100 lb kegs ... lb.	.13	.15
Sulfocyanide, CP 15 lb jars lb.	...	.50
Tartrate, CP, tins ... lb.	...	.65
Pyrogallol, USP, see Acid Pyrogallic ...	...	...
Quinidine Alk, 100 oz tins ... oz.	.63	.68
Sulfate, 100 oz tins ... oz.	...	.45
QUININE SULFATE, USP, 100 oz tins ... oz.	...	.36
1 oz tins, 100 oz lots ... oz.	...	.46
Acetate ... oz.	...	.72
Arsenate ... oz.	...	.72
Benzoate ... oz.	...	.73
Bisulfate, USP ... oz.	...	.36
Citrate ... oz.	...	.46
Dihydrobromide ... oz.	...	.50
Dihydrochloride, USP ... oz.	...	.50
Ethyl Carbonate, 16 oz tins ... oz.	...	.54
Ferrocyanide ... oz.	...	.73
Formate ... oz.	...	.67
Glycerophosphate ... oz.	...	.86
Hydrobromide, USP ... oz.	...	.45
Hydrochlorosulfate ... oz.	...	.50
Hypophosphite ... oz.	...	.65
Lactate ... oz.	...	.66
Phenolsulfonate ... oz.	...	.78
Phosphate ... oz.	...	.55
Salicylate, USP ... oz.	...	.48
Tannate, USP ... oz.	...	.39
Tartrate ... oz.	...	.73
Valerate ... oz.	...	.78
Urea Hydrochloride, USP ... oz.	...	.52
Rennet, N. F. 5 lb 1:25,000 ... lb.	2.95	3.50
Resorcinol, USP, 25 lb cans ... lb.	1.57	1.65
Rochelle Salt, USP, 225 lb bbl ... lb.	.16½	.17½
Rock Sugar, 5 lb boxes ... lb.	...	.15
Saccharin, USP, 10 lb cans ... lb.	1.70	1.80
USP, Soluble, 10 lb cans ... lb.	1.75	1.85
Salicin, USP ... lb.	...	12.50
SALOL, USP, 100 lb drums ... lb.	...	.90
Saltpetre, powd, bbls wks ... lb.	.06½	.08¼
Santonin, USP, bulk ... lb.	105.00	112.00
Saponin, refined ... lb.	1.30	1.50
Siedlitz Mixture, 250 lb bb ... lb.	.13½	.14
Silver Metal, American ... oz.	...	.29½
Iodide, 16 oz lots ... oz.	...	.69
Nitrate, 100 oz bottles ... oz.	.25¼	.27¼
Nucleinate, bulk ... oz.	...	.37
Proteinate ... oz.	.39	.41
SODIUM BENZOATE, USP, 100 lb bbls ... lb.	.44	.48
Bromide, USP, 100 lb kegs ... lb.	.34	.35
Cacodylate, USP, 25 lb bot ... lb.	4.75	5.90
Citrate, USP, X 50 lb kegs ... lb.	.34½	.36
USP VIII, 50 lb kegs ... lb.	.28½	.30
Glycerophosphate, N F, crys 25 lb cans ... lb.	1.27	1.33
Powder, 25 lb tins ... lb.	1.32	1.38
Soln, USP, 25 lb tins ... lb.	1.05	1.15
Hypophosphite, USP, 25 lb cans ... lb.	.60	.65
Iodide, USP, 25 lb jars ... lb.	4.25	4.30
Phosphate (Mono-Sodium), 100 lb kegs ... lb.	.30	.31
Di-Sodium USP, granular, 275 lb bbls ... lb.	.07½	.08
Pyrophosphate, 100 lb kegs ... lb.	...	.29
Salicylate, 100 lb kegs ... lb.	...	.47
Sulfocarbolate, USP, 100 lb kegs ... lb.	...	.25
Sulfocyanate, CP crys, jars included ... lb.	...	.60
Spartein Sulfate, USP, 25 oz bulk ... oz.	.65	.70
Single oz vial ... oz.	.77	.90
STRONTIUM BROMIDE USP, 50 lb kegs ... lb.	.46	.47
Carb, 100 lb kegs wks ... lb.	...	.20
Iodide, USP, 25 lb jars ... lb.	...	4.00
Lactate, kegs ... lb.	.90	1.10
Nitrate, 600 lb bbls NY ... lb.	.08	.08½
Imp. bbls NY ... lb.	.08	.08½
Salicylate, USP, 100 lb keg lb.	...	1.10
Strophanthin, USP, 1 oz vial oz.	19.00	19.00
Crystals ... lb.	75.00	75.00
Strychnine Alk, USP crys, 100 oz tins ... oz.	...	.55
Powdered ... oz.	...	.45
Acetate ... oz.	...	.65
Arsenate, 25 oz cans ... oz.	...	.65
Glycerophosphite, USP ... oz.	...	.65
Hydrobromide ... oz.	...	.65
Hydrochloride ... oz.	...	.65
Hypophosphite ... oz.	...	.75
Nitrate, USP ... oz.	.55	.72
Phosphate ... oz.	...	.65
Sulfate, USP, powd ... oz.	...	.37
Sugar, refined, 275 lb bbl 100 lb	5.80	5.90
Milk, USP, 200 lb bbls ... lb.	.18	.20
Sulfonethylmethane, USP, 10 lb boxes ... lb.	3.85	4.05
Sulonmethane, USP, 10 lb box ... lb.	2.65	3.85
Sulfur flwrs. washed, USP, 125 lb bbl ... lb.	...	.06
Iodide, USP, VIII, 5 lb bot lb.	...	4.55
TARTAR EMETIC, USP, 300 lb bbls ... lb.	.29	.31
Terebene, tins ... lb.	...	.85
Terpin Hydrate, USP, 100 lb kegs ... lb.	.35	.37
Theobromine Alk, 5 lb cans ... lb.	1.90	2.25
Sod. Salicylate, 1 lb bot ... lb.	...	2.10
Sod. Benzoate, 1 oz vials ... oz.	...	1.00
Thymol, USP, 25 lb tins ... lb.	1.45	1.70
Iodide kegs ... lb.	5.60	6.60
Veratrine Alkaloid ... oz.	...	2.25
Sulfate, 1 oz vials ... oz.	...	2.25
Witch Hazel Ext., 50 gal bbl ... gal.	.60	.80
Zinc Carb, USP, 100 lb keg ... lb.	.28	.31
Chloride, USP, 25 jars ex ... lb.	.24	.29
Iodide, 5 lb bottles ... lb.	...	5.22
Oxide, USP, 100 lb bbls ... lb.	.13	.14
Stearate, USP, 50 lb bbl ... lb.	.18	.20
Sulfate, USP, 100 lb bbl ... lb.	.08	.09
Sulfocarbolate, 100 lb kegs ... lb.	.23	.26

Miscellaneous

Castor Oil, odorless, bbls ... lb.	...	.13½
Chalk drop, 175 lb. bbls ... lb.	...	.03½
Precip. light, 250 lb. cask ... lb.	...	.04½
Heavy 540 lb. casks ... lb.	...	.02½
Bulk ... ton	...	5.00
English light, bags ... lb.	...	.04¼
English light, casks ... lb.	.05½	...
Cocoa Butter, 12 lb. box ... lb.	.42	.45
Cod Liver Oil Nor. 30 gal. bbls	25.50	26.00
Newfoundland ... bbl.	...	31.00
Collodion U. S. P. 30 lb. dr ... lb.	...	.23
Colors certified; 1 lb. cans, 5 lb. cans		
Amaranth No. 107 ... lb.	2.50	2.60
Brilliant Blue F.C.F. ... lb.	12.75	13.00
Erythrosine No. 517 ... lb.	16.50	17.00
Orange Ind. 85 ... lb.	2.50	2.60
Ponceau 3R No. 56 ... lb.	4.75	5.00
Tartrazine No. 94 ... lb.	2.50	2.60
Corn Syrup 42° 50 gal. bbl. ... 100 lb.	3.91	4.16
Gelatin, USP, Silver 100 lb. cases ... lb.	.55	.60
Pure Food, 50 lb. bbl ... lb.	.53	.55
Glucose, (grape sugar) dry 70° bags c-l NY ... 100 lb.	3.14	3.24
Haarlem Oil, bot 6 gross cases ... gross	...	3.75
Imported, 5 gr. cs ... gross	...	3.50
Kaolin, Bags ... lb.	.06	.08
Colloidal Grade 200 lb. tin lined wooden drums ... lb.	.15	.29
Mineral Oil White, 50 gal. bbls.		
80-85 vis ... gal.	.45	.50
85-90 vis ... gal.	.65	.70
125-130 vis ... gal.	.75	.85
290 vis ... gal.	.80	.90
Russian 110-115 vis ... gal.	.62	.67
145-155 vis ... gal.	.70	.75
320-330 vis ... gal.	.80	.90
Olive Oil, Edible bbls ... gal.	1.55	1.65
Paraffin Wax, fully refined, slabs		
125 @ 127 A.M.P. bags lb	...	.03
130 @ 132 A.M.P. bags lb	...	.04¼
135 @ 137 A.M.P. bags lb	...	.05
Petrolatum, Lily White, USP, 400 lb. bbl ... lb.	.08	.08½
Snow White USP, 400 lb. bbls ... lb.	.09	.11
Rice Starch, 140 lb bags ... lb.	.09	.10
Soap Castile, bars 40 lb. Case ... Cs.	...	12.75
Powd. USP 250 lb. bbls ... lb.	.26	.28
Green, USP, 450 lb. bbls ... lb.	.07½	.07¾
Neutral, powd. 200 lb. bbls. lb.	.18	.20
Talc, Italian, 220 lb bags ... ton.	60.00	80.00
French, 220 lb bags ... ton.	40.00	45.00

Aromatics and Essential Oils

Acetophenene, CP, 1 lb bot..lb.	3.50	3.65
Aldehyde, C 8 (Otcyl) 1 lb bot ..lb.	.	40.00
C 7, 1 lb bot..lb.	4.50	5.50
C 9 (Nonyl), 1 lb bot ...lb.	...	120.00
C 10 (Decyl), 1 lb bot ...lb.	.	38.00
C 14, 1 lb bot..lb.	.	22.00
C 16, 1 lb bot..lb.	...	16.00
AMYL ACETATE, pure, 25 lb cans..lb.	.43	.50
Butyrate, 1 lb bot..lb.	1.25	1.50
Butyrate, 5 lb bot..lb.	...	1.00
Cinnamate, 5 lb bot..lb.	9.50	9.75
Formate, 1 lb bot..lb.	...	1.75
Formate, 5 lb bot..lb.	...	1.60
Phenyl Acetate, 1 lb bot...lb.	4.50	5.00
Salicylate, 100 lb cbys..lb.	1.25	1.30
Imported..lb.	2.25	2.50
Anethol, 2 lb bot..lb.	1.10	1.35
Anisic Aldehyde, 1 lb bot...lb.	3.10	3.60
Benzaldehyde, USP, 40 lb cbys ..lb.	...	...
50 lb cbys..lb.	1.35	1.45
FFC, 40 lb cbys..lb.	1.25	1.35
Benzoic Ether, see Ethyl Benzoate		
Benzophenone, 1 lb bot..lb.	2.25	2.75
Benzyl Acetate, 100 lb cbys..lb.	.65	.85
Alcohol, 5 lb bot..lb.	.85	.95
BENZYL BENZOATE.....	1.10	1.15
Medicinal, FFC..lb.	...	1.40
Buytrate, CP, 1 lb bot...lb.	9.25	9.50
Benzyl Cinnamate, 1 lb bot. lb.	7.00	7.25
Formate, 1 lb bot..lb.	3.15	3.25
Propionate, 1 lb bot..lb.	2.50	2.65
Succinate, 1 lb bot..lb.	5.25	5.50
Valerate, 5 lb bot..lb.	3.00	3.25
Borneol, 1 lb bot..lb.	1.35	1.85
Bornyl Acetate, 1 lb bot...lb.	1.70	2.80
Bromstyrol, 25 lb cases...lb.	3.75	3.85
Butyl Anthranilate dom, 1 lb bot..lb.		
Carvol, 5 lb bot..lb.	3.00	3.40
Cinnamic Acid, 5 lb cans...lb.	3.25	3.50
Alcohol liquid, 1 lb bot...lb.	2.50	2.60
Crystallizable..lb.	7.00	8.00
Aldehyde..lb.	2.25	2.50
Imported, 1 lb bot...lb.	7.75	9.00
Citral, 25 lb cans..lb.	2.00	3.35
Citronellal 1 lb bot..lb.	2.00	4.00
Citronelyl Acetate, 1 lb bot..lb.	4.25	4.50
Coumarin, 25 lb cans..lb.	3.50	4.00
DECYL ALCOHOL.....lb.	22.00	25.00
Diphenyloxide, 25 lb tins...lb.	1.00	1.15
Diphenyl Methane..lb.	1.75	2.00
Duodecyl Alcohol..lb.	20.00	22.00
Ethyl Acetate, pure, 5 lb bot.lb.	.05½	.06½
Benzoate, 5 lb bot..lb.	1.25	1.50
Ethyl Butyrate, 5 lb bot...lb.	1.80	2.00
Caproate, 1 lb bot..lb.	3.25	3.50
Cinnamate, 1 lb bot..lb.	4.00	4.50
Formate, 5 lb bot..lb.	1.00	1.25
Methyl Paracresol, 1 lb bot ..lb.	3.25	3.50
Phenyl Acetate, 5 lb bot..lb.	3.75	4.00
Valerate, 5 lb bot..lb.	...	3.75
Salicylate, 5 lb bot..lb.	1.95	2.00
Eucalyptol, USP, 50 lb cans..lb.	.60	.65
Eugenol, USP, 25 lb cans...lb.	3.00	3.50
Geraniol, 50 lb cases..lb.	1.75	2.35
Geranyl Acetate, 1 lb bot...lb.	2.75	2.80
Butyrate, 1 lb bot..lb.	13.00	13.50
Formate, 1 lb bot..lb.	12.00	12.50
Heliotropin, 100-10 lbs..lb.	1.65	1.75
Imported..lb.	1.95	2.05
Hydroxycitronellal, 1 lb...lb.	4.75	6.75
Indol, CP, 1 oz bot..oz.	2.90	3.00
IONONE, 1 lb bot 100%...lb.	5.00	6.00
Alpha..lb.	4.50	4.70
Beta..lb.	5.70	5.75
Methyl..lb.	5.00	5.25
Iso Borneol..lb.	2.25	2.35
Iso Bornyl Acetate..lb.	3.00	3.20
Iso-Butyl Benzoate, 5 lb bot.lb.	2.75	3.00
Iso-Eugenol, 1 lb bot..lb.	3.50	3.55
Iso-Safrol, 1 lb bot imp...lb.	1.75	1.85
Domestic, 5 lb bot..lb.	3.50	3.75
Linalol from Bois de Rose, 5 lb bot..lb.	1.90	3.90
Linalyl Acetate, 1 lb bot...lb.	2.00	3.00
Benzoate, 1 lb bot..lb.	13.00	14.00
Formate, 5 lb bot..lb.	10.50	12.00
METHYL ACETOPHENONE ..lb.	2.00	2.15
Anthranilate, 1 lb bot...lb.	2.15	2.20
Imported..lb.	2.70	2.75
Anthranilic Acid..lb.	8.25	8.50
Benzoate, 5 lb bot imp...lb.	1.25	1.35
Domestic, 5 lb bot...lb.	1.25	1.35
Cinnamate, 1 lb bot...lb.	3.75	4.25
Heptenone, 1 lb bot...lb	3.50	4.00
Paracresol, 1 lb bot...lb	4.50	8.00
Phenylacetate, 5 lb bot...lb	3.75	4.00
Salicylate, USP, 500 lb dr .lb.	...	.40
50 lb cases..lb.	...	.42
Mirbane rect. 1,000 lb drs...lb.	.12	.13
Musk Ambrette 1 lb cans...lb	6.75	7.00
Ketone 1 lb cans..lb	7.55	7.80
Xylene 5 lb cans..lb.	2.25	2.85
Nerolin 1 lb cans..lb.	1.35	1.40
Octyl Alcohol 1 lb bot..lb.	16.00	18.00
Oenanthic Ether lb bot...lb.	1.90	2.00
Oleoresin Aspidum.....		
USP, bot and tins..lb.	...	1.25
Capsicum, USP, bot and tins ..lb.	2.75	3.50
Cubeb, USP, bot and tins..lb.	3.00	3.25
Ginger bot and tins..lb.	2.35	2.85
Malefern see Aspidum.....		
Orris, bot & tins..lb.	15.00	18.00
Pepper, black, USP, bot & tin..lb.	...	9.50
Vanilla, bot & tins..lb.	8.00	8.75
Paracresol Methyl Ether...lb.	4.25	4.50
Paracresyl Acetate..lb.	5.50	5.75
Para Cymene Refd 110 gal dr ..gal.	2.25	2.50
PHENYLACETALDEHYDE 50% 1 lb bot..lb.	4.50	4.75
Imported 50%..lb.	4.50	4.75
100%..lb.	8.00	8.25
Phenylacetic Acid 1 lb bot..lb.	2.65	2.90
Phenyl Diacetate 1 oz bot...oz.	3.00	3.25
1 lb bot..lb.	8.00	10.00
Imported..lb.	7.00	7.75
Phenylethyl Alcohol 1 lb bot.lb.	4.40	4.65
Phenyl Ethyl Acetate..lb.	8.25	8.75
Butyrate 1 lb bot..lb.	15.00	16.00
Formate, 1 lb bot..lb.	19.00	21.00
Propionate, 1 lb bot..lb.	16.00	18.00
Valerate, 1 lb bot..lb.	19.00	20.00
Phenylpropylalcohol, 1 lb bot ..lb.	8.50	9.00
Rhodinol, 1 lb bot..lb.	6.25	20.00
Saffrol, drums..lb.	.30	.32
60 lb cans ..lb.	.32	.34
Skatol, 1 oz bot..lb.	4.50	7.00
Terpinyl Acetate, 25 lb cans..lb.	.85	.90
Imported, 25 lb cans.....	.85	.90
TERPINEOL, CP, 1000 lb drs ..lb.	.27	.29
50 lb cans..lb.	.31	.33
Absolute, 25 lb cans..lb.	.48	.50
Imported, 25 lb cans...lb.	.58	.60
Valerianic Ether see Ethyl Valerate.....		
Vanillin (Clove Oil), USP.lb.	5.50	5.75
(Guaiacol) USP.....lb.	5.00	5.25

Essential Oils

Almond Bitter, USP, 5 lb bot lb.	2.25	2.35
Bitter, ffPA, 5 lb bot.....lb.	2.35	2.50
Sweet, 56 lb cans.....lb.	.42	.45
Almond Meal, 25 lb cans....lb.	.20	.21
Amber crude, 25 lb tins.....lb.	.15	.17
Rectified, 25 lb tins.....lb.	.50	.53
Amber liquid, 400 lb drs.....lb.	2.20	2.30
Ambergris, Black, boxes.....oz.	14.00	15.00
Gray boxes..oz.	32.00	36.00
Angelica Root, 1 lb bot.....lb.	25.00	35.00
Anise Tech, 400 lb drums...lb.	.40	.42
USP, 60 lb cans..lb.	.42	.44
Apricot Kernel, 50 lb cans...lb.	.26	.27
Bay, 25 lb tins N. F. V., 50.55% Phenol..lb.	1.80	1.95
Terpeneless..lb.	4.25	4.45
BERGAMOT, 25 lb coppers.lb.	1.85	2.20
Terpeneless..lb.	6.25	9.25
Artificial, 25 lb cans.....lb.	1.25	1.50
Birch, Sweet, Northern, 25 lb tins..lb.	3.00	3.10
Southern, 25 lb tins.....lb.	...	1.85
Birch Tar, rect., 5 lb bot.....lb.	.50	.55
Crude, 50 lb tins.....lb.	.13	.14
Bois de Rose, tins.....		
Brazillian..lb.	.60	.65
Cayenne, tins..lb.	1.25	1.45
Cade, 25 lb cans..lb.	.25	.26
Cajuput, native, 50 lb tins...lb.	.55	.60
Calamus, 5 lb bot.....lb.	2.75	3.00
Camphor Sassa, 1000 lb drs..lb.	.21	.22
White, 400 lb drs.....lb.	.17	.18
Cans, 50 lbs.....lb.	.19	.20
CANANGA, Native 25 lb tins ..lb.	1.60	1.75
Rectified, 25 lb tins.....lb.	2.10	2.20
Caraway, USP.....lb.	1.50	1.65
Cardamon, NF, 1 lb bot.....lb.	16.00	28.00
Cascarilla, USP, 1 lb bot.....lb.	65.00	80.00
Cassia,.....	...	...
Redist, USP, 50 lb cans...lb.	.95	1.00
Cedar Leaf, 50 lb tins.....lb.	.85	1.00
Cedar Wood, light, 1000 lb drs ..lb.	.30½	.33
Celery, 1 lb bot..lb.	...	7.50
Chaulmoogra, USP 80 lb cases lb.	...	1.50
Cinnamon Ceylon, 1 lb bot...lb.	9.00	10.00
Leaf, 5 lb bot..lb.	1.85	1.95
CITRONELLA Ceylon, 1000 lb drs..lb.	.34½	.36
50 lb tins..lb.	.36	.38
Java, 400 lb drs..lb.	.55	.57
50 lb tins..lb.	.57	.59
Civet, Abyssin, horns.....oz.	2.10	3.00
Cloves, USP, 50 lb cans.....lb.	1.10	1.15
6 lb bot..lb.	1.25	1.30
Copaiba..lb.	.45	.50
Coriander, USP, 10 lb bots..lb.	4.25	4.50
Croton USP, 25 lb tins.....lb.	3.80	4.25
Cubebs, USP, 5 lb bot.....lb.	2.55	2.65
Cumin, 1 lb bot..lb.	7.00	7.50
Dill, 25 lb cans..lb.	3.15	4.65
Erigeron, 20 lb tins..lb.	.95	1.05
EUCALYPTUS Austl, USP, 56 lb cans, cases..lb.	.30	.31
500 lb drs..lb.	.28	.29
Fennel, USP, 25 lb tins.....lb.	.95	1.10
Geranium African, 25 lb tins..lb.	4.00	4.90
Bourbon, 28 lb tins.....lb.	3.85	4.00
Turkish, 28 lb tins.....lb.	2.10	2.25
Ginger, 1 lb bot..lb.	4.25	4.40
Gingergrass, 28 lb tins.....lb.	2.50	2.70
Grape Fruit..lb.	2.90	3.00
Hemlock, 25 lb tins..lb.	1.00	1.05
Juniper Berries, USP, 25 lb tins ..lb.	1.50	1.55
Wood, 50 lb tins.....lb.	.50	.60
Labdanum, 5 lb bot.....lb.	5.50	6.00
LAVENDER, USP, 28 lb tins ..lb	1.80	2.00
Spike Spanish, 50 lb cans..lb.	.45	.50
Lemon Ital, 25 lb cans.....lb.	1.00	1.05
California 35 lb cbys....lb.	.75	.85
Lemongrass, native, 50 lb cans ..lb.	.51	.53
Limes, expressed, 25 lb tins..lb.	11.50	13.50
Distilled, 25 lb tins.....lb.	8.60	9.60
Linaloe Mex., 70 lb cases....lb.	...	1.75
Mace, distilled, 50 lb tins....lb	1.10	1.15
Mandarin, 25 lb cases.....lb.	4.20	4.70
Musk Pods Cabardine, tins..lb.	...	...
Musk Tonquin, tins, Pods...oz.	24.00	26.00
Grains Cabardine, tins....oz.	...	...
Tonquin, tins, Grained..oz.	28.00	34.00
MUSTARD, USP, 1 lb bots.lb.	9.50	10.00
Artif, USP, 5 lb bot.....lb.	1.55	1.65
Neroli Bigarade, ¼ & ½ & 1 lb bot ..lb.	80.00	110.00
Petale, 1 lb bot.....lb.	95.00	105.00
Artificial, 1 lb bot.....lb.	5.00	15.00
Nutmeg, USP, 50 lb tins....lb	1.05	1.10
ORANGE BITTER, 25 lb tins ..lb	1.80	2.05
Sweet W Ind , 25 lb tins..lb	1.55	1.70
Italian, 25 lb cop.....lb	1.70	2.00
Orange American, Cold pressed 25 lb tins.....lb.	1.70	1.80
Distilled, 25 lb tins.....lb.	.90	1.00
Spanish, 25 lb tins.....lb.	...	1.50
Oil Orris, concrete.....oz.	4.75	5.00
Origanum, 50 lb cans tech...lb.	.25	.27
Parsley, 1 lb bot..lb.	6.50	6.75
Patchouli, 5 lb bot.....lb.	4.00	4.35
Pennyroyal, dom, 25 lb tins..lb.	1.75	1.95
Imported, 25 lb tins.....lb.	...	1.05
Pepper Black lb.,.....	...	6.00
Peppermint, nat. 60 lb cases lb.	1.45	1.55
Redis, USP, 60 lb cs.....lb.	1.65	1.75
Petit Grain S A., 25 lb tins..lb.	1.00	1.10
French, 1 lb bot.....lb.	4.50	4.75
Italian, 25 lb tins.....lb.	2.20	2.30
Pimento Leaf, 25 lb tins ....lb.	1.40	1.55
Berries, 25 lb tins .....lb	3.00	3.10
Pine Needle Siberian, cans..lb.	.60	.65
Pinus, Sylvestris, 25 lb tins..lb.	1.30	2.00
Pumilio, USP, 25 lb tins...lb.	1.90	1.95
Rose Fr, 8, 16, & 32 oz pkgs..lb.	14.00	17.00
Bulg, 8, 10 & 32 oz pkgs...oz.	8.50	14.00
Rosemary, USP, 27½ lb tins..lb.	...	.39
1000 lb drums.....lb.	...	.38
Tech, 25½ lb tins.....lb.	...	.34
Rue, 1 lb bot..lb.	3.00	3.10
SANDALWOOD, E Ind ,USP, 100 lb case.....lb.	6.50	7.75
W Indian (Amayris), 25 lb tins..lb.	2.85	2.95
Australian, Tins.....	5.65	5.65
Sassafras, USP, 50 lb cans...lb.	1.05	1.07
Artificial, 1000 lb drs, 60 lb cans..lb.	.27	.29
Safrol, cans..lb.	.36	.38
Sage, Dalmatian, 25 lb cans lb.	2.25	2.35
Savin, 50 lb tins.....lb.	2.00	2.25
Snakeroot, Canada.....lb.	8.25	8.50
SPEARMINT, USP, 50 lb tins ..lb	1.30	1.40
Spruce, 50 lb tins.....lb	.95	1.00
Tansy, American, 25 lb tins..lb	2.15	2.30
Tar, 50 gal bbls.....lb.	.25	.30
USP, 50 gal bbls.....lb.	.75	1.50
Thyme, red, NF, 25 lb tins..lb.	.65	.68
White, NF, 25 lb tins.....lb.	.83	.85
Tech, 110 lb drums.....lb.	.60	.70
Turpentine, USP, rect cbys..lb.	.27	.30
Vetivert Bourbon, 10 bot....lb.	4.75	5.00
Indian, 1 lb bot.....lb.	25.00	38.00
Java, 1 lb bot.....lb.	12.00	13.00
Wine, heavy, 1 lb bot.....lb.	1.50	1.60
WINTERGREEN Gaultheria, true, 25 lb tin.....lb.	8.00	10.00
Southern, 25 lb tins...lb.	3.75	4.00
Synthetic see Methyl salicylate.....		
Wormseed, Balt, 25 lb tins..lb.	2.55	2.70
Wormwood, dom, 25 lb tins..lb.	4.00	4.25
Ylang Ylang Bourbon, 10 lb tins No. 1.....lb.	5.25	5.50
10 lb tins No. 2.. ...lb.	5.20	5.25
Manila, 1 lb bot.....lb.	30.00	36.00

Drugs and Spices

Aconite Root, USP, bags	lb.	.13 .14½
Agar Agar, No. 1, bales	lb.	1.15 1.20
Agar Agar No. 2, bales	lb.	1.05 1.07
Almonds Meal	lb.	.25 .30
Aletris Root, bags	lb.	.20 .21
Alkanet Root, bags	lb	.09 .10
ALOES, Cape, 400 lb cases	lb.	.11 .12
Curacao, 140 lb cases	lb.	.18 .20
Socotrine, Whole, 300 lb cs	lb.	.32 .37
Althea Root, bags	lb.	.19 .21
Cut cases	lb.	.18 .25
Angelica Root, bags	lb.	.12 .13
Angostura Bark, bags	lb	.18 .19
Anise Star case	lb	.13 .14
Spanish, bags	lb	.07½ .08
ARABIC GUM, White, No. 1, 220 lb bags	lb.	.20 .21
Seconds, 220 lb bags	lb.	.19 .20
Sorts, Amber, 220 lb bags	lb.	.08½ .08¾
Powd, USP, 300 lb bbls	lb.	.13 .16
Areca Nuts, 100 lb bbls	lb.	.05 .07
Powd, 100 lb bbls	lb.	.10 .11
Arnica Flowers, bales	lb.	.10 .11
Root, bags	lb.	.42 .43
Arrowroot, St. Vincent, powd bbls	lb.	.08 .09
Asafoetida, 250 lb cases	lb.	.18 .19
Powd, 50 lb boxes	lb.	.33 .34
Balm Gilead Buds, bags	lb.	.26 .27
Balmony Herbs, bales	lb.	.13 .15
BALSAM COPAIBA Para, 80 lb cases	lb.	... .20
South American, USP, 80 lb cases	lb.	... .24
Peru, 120 lb cases	lb.	1.20 1.25
Tolu, 90 lb cases	lb.	.65 .70
Barberry Bark, of root, bags	lb.	.16 .18
Bayberry Bark, bales	lb.	.07 .08
Wax bbls	lb.	.17 .19
BELLADONNA LEAVES, bale	lb.	.13 .15
Root, bags	lb.	.11 .12
Bees Wax, White, cases	lb.	.38 .42
Yellow refined cases	lb.	.26 .28
Yellow Crude Cases	lb	.17 .18
Benzoin Gum, Siam, boxes	lb.	1.15 1.25
Sumatra, cases	lb.	.26 .27
Berberis Aquafolium Root, bags	lb.	.08 .09
Beth Root, bags	lb.	.09 .10
Black Indian Hemp Root, 100 lb bags	lb.	.11 .12
Blood Root, bags	lb.	.11 .12
Blueflag Root, bags	lb.	.13 .14
Boldo Leaves, bales	lb.	.15 .17
Boneset Herb, bales	lb.	.08 .09
Borage Flowers, bales	lb.	.13 .14
Broomtop Herb Cut, bales	lb.	.07 .08
Bryonia Root, bags	lb.	.09 .10
BUCHU LEAVES Short, 250 lb. bales	lb.	.16 .17
Long bales	lb.	.75 .80
Buckbean Leaves, bales	lb.	.08½ .09
Buckthorn Bark, bags	lb.	.05 .06
Berries, bags	lb.	.29 .34
Burdock Root, bags	lb.	.08 .09
Seed bags	lb.	.30 ...
Burgundy Pitch, 110 stand gross for net	lb.	.08 .09
Imported	lb.	.10 .11
Calabar Beans, bags	lb.	.15 .16
Calamus Root, blchd cases	lb.	.30 .33
Unbleached, bags	lb.	.07 .08½
Calendula Petals, imp bales	lb.	.29 .34
Calisaya Bark, bales	lb.	.19 .20
Powdered, bbls	lb.	.25 .26
Canary Seed, South America, bags	lb.	.05 .05½
Dutch, bags	lb.	.05 .06
Candelilla Wax, bags	lb.	.14 .15
Cannella Alba Bark, bales	lb	.25 .26
Cannabis, U.S.P.	lb.	.18 .25
Cantharides, Chinese, cases	lb.	.35 .40
Powdered, boxes	lb.	.60 .63
Russian, cases	lb.	.75 .80
Powdered, boxes	lb.	.90 .95
Caraway Seed, African, bags	lb.	.04½ .05½
Dutch, 11 lb bags	lb.	.06¼ .06½
Cardamon bleached, cases	lb.	1.00 1.05
Decorticated, cases	lb.	.52 .53
Cascara Amarga, 150 lb bbls	lb.	Nom ...
So called bales	lb.	.50 .75
CASCARA SAGRADA, 1929 bark	lb.	.17 .18
1930 bark	lb.	.16½ .18
1931 bark	lb.	.11½ .12½
Cascarilla Bark, quills, bales	lb.	.80 .90
Siftings, bbls	lb.	.65 ...
Cassia Batavia No. 1 bbls	lb.	.07 .07¼
Shortstick, bales	lb.	.06¼ .06½
Batavia No. 3, bales	lb.	.05¼ .06
China Select Rolls, cases	lb.	.03 .03½
Broken, bales	lb.	.05½ .05¾
Saigon, thin	lb.	.20 .21
Buds, cases	lb.	.20 .25
Fistula, baskets	lb.	.09 .10
Catnip, Herb, bales	lb.	.16 .17
Celery Seed, bales	lb.	.18¼ .19½
Ceresin Wax, White, bags	lb.	.10 .15
Yellow 200 lb. bags	lb.	.09 .12
Imp. 100 lb. bags	lb.	.25 .38
CHAMOMILE FLOWERS Roman, bales	lb.	.32 .35
Hungarian, cases	lb.	.14 .15
Charcoal Willow, powd, bbls	lb.	.06 .06½
Wood, powd, bbls	lb.	.04 .05
Chestnut Bark	lb.	.07 .08
Leaves bales	lb.	.05 .05½
Chicle Gum, lb bbls	lb.	.58 .75
Chiretta, bales	lb.	.15 .18
Cinnamon, Ceylon, No. 1, bales	lb.	.15 .16
No. 2 bales	lb.	.12 .12½
No. 3 bales	lb.	.11½ .12
Clover Tops, Red, bags	lb.	.10 .11
Cloves Zanzibar, 135 lb bbl	lb.	.15½ .15½
Cochineal, Black	lb.	.69 ...
Silver	lb.	.75 ...
Cohosh Root, Black, bags	lb.	.05 .06
Blue, bags	lb.	.06 .07
Colchicum Root, bags	lb.	.07 .08
Seed, bags	lb.	.60 .70
COLOMBO ROOT, bags	lb.	.05 .06
Colocynth Pulp, bales	lb.	.18 .19
Coltsfoot Leaves, bags	lb.	.06 .07
Comfrey Root, bags	lb.	.10 .11
Condurango Bark, bags	lb.	.09 .10
Coriander Seed, Morocco, bags	lb.	.03½ .04
Bleached, bags	lb.	.05½ .06
Corn Silk, bales	lb.	.05½ .06½
Cotton Root Bark, bales	lb.	.06½ .07½
Cowhage, 1 oz tins	lb.	1.00 ...
Cramp Bark so called bales	lb.	.05 .06
True, bags	lb.	.26 .28
Cranesbill Root, bags	lb.	.07½ .08
CUBEB BERRIES, XX bags	lb.	.32 .33
Powdered, boxes	lb.	.34 .35
Culvers Root, bags	lb.	.11 .12
Cumin Seed, Malta, bags	lb.	.12½ .12¾
Morocco, bags	lb.	.06¾ .07
Cuttlefish, Bone Trieste, Straps	lb.	.19 .22
French, boxes	lb.	.18 .21
Powdered, bbls	lb.	.09 .10
Broken, bales	lb.	.07 ...
Damiana Leaves, bales	lb.	.15 .16
Dandelion Root, Imp. bags	lb.	.11 .12
Deer Tongue Leaves, bales	lb.	.09 .11
Digitalis Leaves, bales	lb.	.11 .12
Dogwood Bark, Jamaica bags	lb.	.07½ .08¼
American bales	lb.	.06½ ...
Doggrass Root, USP, cut bags	lb.	.14½ .15
Dragons Blood Mass, cases	lb.	.65 .70
Reeds, boxes	lb.	.90 .95
Echinacea Root, bags	lb.	.16 .17
Elcampane Root, bags	lb.	.05 .06
Elder Flowers, bags	lb.	.21 .24
Elemi Gum, 85 lb cases	lb.	.26 .28
Elm Bark, bundles	lb.	.19 .22
Grinding bags	lb.	.09 .10
Powdered, bbls	lb.	.16 .18
Ephedra Vulgaris, bales	lb.	.06 .07
ERGOT, 150-200 lb bags	lb.	.45 .63
Eucalyptus Leaves, bales	lb.	.05 .06
Euphorbia Pilulifera, Herb, bags	lb	.05 .08
Euphorbium Gum, cases	lb.	.14 .20
Fennel Seed, French, bags	lb.	.07¼ .07¾
German bags	lb.	.08 .10
Foenugreek Seed, 200 lb bags	lb.	.04 .04¼
Fish Berries, 100-125 lb bag	lb.	.06 .07½
Flax Seed, Whole	182 lb bbls.	14.50 15.25
Ground, 180 lb bbls	lb.	.06 .06½
Fringe Tree Bark or Root bags	lb.	.11 .13
Fumigating Pastiles, boxes	lb.	.28 .33
Galangal Root, bags	lb.	.08 .09
Galbanum Gum, cans	lb.	.90 1.00
Gamboge Gum, 100 lb cases	lb.	.70 .75
Powdered, cases	lb.	.80 .85
Gelsemium Root, bags	lb.	.06 .07
GENTIAN ROOT, bags	lb.	.07 .08
Ground bbls, boxes	lb.	.10 .11
Powdered, bbls, boxes	lb.	.10 .11
Ginger, African, bags	lb.	.05½ .06
Jamaica Grinding bags	lb.	.08½ .08½
Cochin ABC & Lemon, bags	lb.	.07½ .07½
Ginseng Root, cultivated cs	lb.	8.00 10.00
Wild Southern, cases	lb.	... 16.00
Golden Seal Root, bags	lb.	.95 1.00
Powdered, boxes	lb.	1.25 1.30
Herb, barrels	lb.	1.25 1.30
Grains of Paradise, bags	lb.	.11 .14
Grindelia Robusta, Herb, bale	lb.	.07 .08
Guaiac Gum, 150 lb cases	lb.	.25 .26
Strained 75 lb cases	lb.	.70 .75
Guarana, tin cases	lb.	1.00 1.25
Hellebore Root, Black, bbls	lb.	.05½ .06
White, 250 lb bbls	lb.	.07½ .08½
Powdered	lb.	.11 .12
Helonias Root, bags	lb.	.28 .30
Hemp Seed, bags	lb.	.03½ .03¾
Henbane Leaves, USP, bales	lb.	.09 .10
HENNA LEAVES, bales	lb.	.07½ .08½
Powdered	lb.	.12 .13
Hops, bales	lb.	... .25
Horehound, Herb, bales	lb.	.07 .08
Hydrangea Root, bales	lb.	.06 .07
IPECAC ROOT, Carteagna, bags	lb.	1.05 1.10
Powdered, 220 lb bbls	lb.	1.30 1.40
Isinglass, American, 130 lb cases	lb.	.95 1.00
Russian (Beluga), boxes	lb.	4.50 ...
Jaborandi Leaves, bales	lb.	.07½ .08
Jalap Root, Whole, 150 lb bag	lb.	.18 .20
USP, Powd, 250 lb bbls	lb.	.23 .26
Japan Wax 224 lb cases	lb.	.07½ .07¾
JUNIPER BERRIES, 125 lb bags	lb.	.04½ .05
Kamala, boxes	lb.	.40 .45
Karaya Gum, Powdered, bbls	lb.	.12 .20
Kava Kava Root, bags	lb.	.13 .14
Kino Gum, Black, cases	lb.	.50 .55
Kola Nuts, 150 lb bags	lb.	.06 .06½
Lady Slipper Root, bags	lb.	.40 .45
Larkspur Seed, bags	lb.	.30 .35
Laurel Berries, bags	lb.	.08 .09
Leaves, Greek, bags	lb.	.05 .05½
Italian, bales	lb.	.08 .09
Lavender Flowers, Ordinary	lb.	.18 .20
Selected	lb.	.29 .31
Lemon Peel, bags	lb.	.08 .09
LICORICE ROOT, Whole bbls	lb.	.12 .15
Spanish Natural bales	lb.	.05½ .07
Powdered, bbls	lb.	.08 .10
Selected 2 & 5 lb bdls	lb.	.12 .15
Cutting, 125 lb bags	ln.	.06 .06½
Turkish, 150 lb bales	lb.	.05 ...
Linden Flowers with leaves, bales	lb.	.16 .17
Without leaves, bales	lb.	.22 .23
Liverwort Leaves, bales	lb.	.14 .15
Lobelia, Herb, bales	lb.	.09 .10
Seed, bags	lb.	.21 .26
Lovage Root, Imp., bags	lb.	.15 .17
Lupulin N. F., tins	lb.	1.25 1.30
Lycopodium, 88 lb. cases	lb.	.35 .36
MACE SIAUW, No. 1, cases	lb.	.32 .33
Banda No. 1, cases	lb.	.38 .40
Batavia No. 2, cases	lb.	.31 .32
Malva Flowers, Blue, bales	lb.	.50 .60
Black, bales	lb.	.25 .40
Leaves, bales	lb.	.12 .13
Manaca Root, bales	lb.	.23 .24
Manna, Large Flake, cases	lb.	.55 .57
Small Flake, cakes	lb.	.37 .45
Sorts, cases	lb.	.45 .50
Mandrake Root, bags	lb.	.08 .09
Marjoram, Herb	lb.	.13½ .14
French, No. 1 bales	lb.	.13 .14
German, bales	lb.	.55 .60
Mastic Gum, 120 lb cans	lb.	.18 .21
Matico Leaves, bales	lb.	.15 .16
Mezereon Bark, bags	lb.	.02½ .03
Millet Seed, Yellow, bags	lb.	.05 .06
Montan Wax, Crude, bags	lb.	.24 .25
Bleached, bags	lb.	.09 .11
Moss, Iceland, bales	lb.	.10 .12
Irish, Bleached, bales	lb.	.75 .80
Mullein Flowers, tins	lb.	.07 .07½
Leaves, bales	lb.	.07 .08
Musk Root, Russian, bags	lb.	.17 .19
Myrrh Gum, 200 lb, cases	lb.	.22 ...
Nutgalls, Chinese, bags	lb.	... Nom.
Aleppy, bags	lb.	.23 ...
Powdered, bags	lb.	.12½ .12¾
Nutmegs, 110's cases	lb.	.15 .15½
75's & 80's cases	lb.	.18 .19
Grinding, bags	lb	
NUX-VOMICA Buttons, bag	lb.	.05 .06
Powdered, 200 lb bbls	lb.	.08 .09
Oak Bark, bags	lb.	.06 .06½
Olibanum Gum, 280 lb cases	lb.	.07½ .08½
Siftings	lb.	.24 .25
Tears, No. 1 Extra	lb.	.16 .18
No. 2	lb.	.12 .13
No. 3	lb.	12.00 13.00
Opium Gum, USP, cases	lb.	13.00 14.00
Granular, cans	lb.	13.00 14.00
Powdered, USP, cans	lb.	.25 .30
Orange Flowers, cases	lb.	.08 .09
Peel, Bitter, bags	lb.	.07 .08
Sweet bags	lb.	
ORRIS ROOT, Flor. bid. bags	lb.	.11 .12
Powdered, 200 lb bbls	lb.	.15 .16
Verona, bags	lb.	.09 .09½
Powdered, 200 lb bbls	lb.	.12 .13
Fingers, boxes	lb.	.90 .95
Ozokerite Wax, Brown, Hard	lb.	... ...
Bags	lb.	.24 .25
Green, Hard, bags	lb.	.25 .27
Yellow, Refined, bags	lb.	.33 .34
Papain, Crude, 150 lb cases	lb.	2.15 2.20
Pure, Powdered, 10 lb bot	lb.	2.30 2.35
Paprika, bags	lb.	.20 .20½
Pareira Brava Root, bags	lb.	.13 .14
Passion Flower, bales	lb	.05 .06
Patchouli Leaves, bales	lb.	.15 .16
Pennyroyal, Herb, 100 lb bags	lb.	.08 .09
Leaves, 100 lb bags	lb.	.12 .13

PEPPERMINT LEAVES, Imp bales	lb.	.30	.40
Domestic, bales	lb.	.24	.28
Pichi Leaves, bags	lb	.10	.11
Pimento Select, bags	lb.	.05¾	.06
Pink Root, True, bags	lb.	.32	.34
Pleurisy Root, bags	lb.	.15	.16
Poke Berries, bags	lb.	.14	.15
Root, 200 lb bales	lb.	.06	.06½
Pomegrant Bark of Root, bags	lb.	.29	.34
Bark of Fruit, bags	lb.	.20	.25
Bark of Tree, bags	lb.	.15	.18
POPPY FLOWERS, Red, bags	lb.	.45	.50
Prickly Ash Bark	lb.	.12	.15
Southern bags	lb.	.11	.11½
Northern, bags	lb.	.11	.12
Berries, bags	lb.	.20	.21
Prince's Pine, bales	lb.	.15	.20
Psyllium Seed, Black, bags	lb.	.25	.27
Plantago Seed, Blonde, Bags	lb.	.08	.09
Pulsatilla, Herb, bags	lb.	.10	.11
Pumpkin Seed, bags	lb.	.11	.12
Pyrethrum Flowers	lb.	.17	.18
Pwd., pure, 200 lb.bbls.	lb.	.20	.21
Quassia Chips, bags	lb.	.06	.06½
Quebracho, bulk, 125 lb. bbl.	lb.	.20	.21
Quince Seed, Spanish bags	lb.	1.05	1.30
Persian, bags	lb	1.35	1.80
Rape Seed, South American, bags	lb.	.05½	.06
Dutch, bags	lb.	.06	.06½
Raspberries, Dried, bbls	lb.	.50	.55
Red Saunders, bags	lb.	.08	.09
Rhatany Root, bags	lb.	.10	.11
Rhubarb Root, HD, cases	lb.	.18	.19
Powdered, bbls.	lb	.23	.25
Rosemary Leaves, bales	lb.	.05	.05½
Flowers, cases, bales	lb.	.28	.32
Rose Petals, pale	lb.	.15	.15½
Red	lb.	.50	.55
Rue, Herb, bales	lb.	.18	.20
Sabadilla Seed, bags	lb.	.17	.18
Powdered, bbls.	lb.	.19	.19½
SAFFRON FLOWERS, American, bales	lb.	.21	.22
Valencia, 1 lb cans	lb.	15.00	15.50
Sage Dalmatian, bales	lb.	.05¼	.06
Sandarac Gum, 300 lb bbls.	lb.	.30	.35
Sarsaparilla Root, Honduras, bales	lb.	.65	.70
Mexican, bales	lb.	.13	.14
Sassafras Bark, Ordinary, bales		.08	.10
Select, bales	lb.	.16	.17
Savory Leaves, bale	lb.	.05¾	.06¼
Saw Palmetto Berries, bags	lb.	.07½	.08¼
Scammony Resin, boxes	lb.	1.30	1.35
Root, bags	lb.	.07	.08
Senega Root, bags	lb.	.38	.40
SENNA ALEX., 150 lb cases	lb.	.25	.30
Half leaf 150 lb bales	lb.	.10	.12
Sifting, 400 lb bales	lb.	.09	.10
Tinnevelly, Bold, 350 lb bales	lb.	.11	.13
Medium Leaf	lb.	.08	.09
Small Leaf	lb.	.06	.08
Pods, 350 lb	lb.	.09	.10
Powdered, 200 lb	lb.	...	.10
Serpentaria Root, bags	lb.	.35	.36
Simaruba Bark, bales	lb.	.24	.26
Skullcap Leaves, Eastern, bales	lb.	.28	.33
Western, bales	lb.	.17	.27
Skunk Cabbage, Natural, bales	lb.	.12	.14
Snake Root, Canada Natural, bags	lb.	.18	.19
Canada, Stripped, bags	lb.	...	.50
Soap Bark	lb.	.12	.13
Cut, 125-175 lb bags	lb.	.08	.09
Crushed, 200 lb bbls.	lb.	.16	...
Powdered, bbls.	lb.	.12	.13
Spearmint Leaves, American, bales	lb.	.22	.23
Spermaceti, blocks, cakes, cases	lb.	.21	.23
Bulk	lb.	.20	.22
Spikenard Root, bags	lb.	.08½	.09
Squaw Vine, bales	lb.	.12	.13
Squills, White	lb.	.05	.06
Powdered, bulk	lb.	.20	.22
Stavesacre Seed, bags	lb.	.12	.13
Stillingia Root, bags	lb.	.07½	.08
Stone Root, bags	lb.	.07	.08
St. Ignatius Beans, bags	lb.	...	Nom.
St. John's Bread, bags	lb.	...	.09
STRAMONIUM LEAVES, bales	lb.	.11	.12
Seed, bags	lb.	.07½	...
Strophanthus Seed, Kombe, bags	lb.	1.80	2.00
Styrax Liquid, Artificial	lb.	.26	.35
Genuine, USP	lb.	.38	.43
Sunflower Seed, bags Calif	lb.	.04½	.05
South American, bags	lb.	.07	.07½
Tamarinds, bbls	lb.	.05	.06
Kegs	keg	3.75	3.85
Tansy, Herb, bales	lb.	.12	.13
Thus Gum, 280 lb bbls	lb.	.07½	.16½
THYME, Spanish, bales	lb.	.07	.08
French, bales	lb.	.05¾	.06½
Tonga Root, bundles	lb.	.25	.26
Bark, bundles	lb.	.25	.26
Tonka Beans, Angostura Cases		1.50	1.65
Para cases	lb.	.70	.75
Surinam cases	lb.	.75	.80
Tragacanth Gum, No 1, 100 lb. cases	lb.	1.30	1.40
No. 2	lb.	1.20	1.25
No. 3	lb.	1.05	1.15
Powdered, 50 lb boxes	lb.	.75	.85
Turkish cases	lb.	.45	.90
Turmeric Root Madras, bags.	lb.	.06½	.07
Aleppy bags	lb.	.05½	.06
Powdered	lb.	.11	.13
China bags	lb.	.11	.12
Turpentine Venice True, 80 lb cases	lb.	.32	.40
Artificial, 80 lb cases	lb.	.17	.18
Uva Ursi Leaves, bales	lb.	.05	.05½
Valerian Root, Belgium bags	lb	.09	.10
VANILLA BEANS, Mexican, whole, cases	lb.	3.75	4.25
Cuts, cases	lb.	2.50	2.65
Bourbon, cases	lb.	1.00	1.50
Vetivert Root, 100 lb bags.	lb.	.25	...
Violet Flowers, bags	lb.	.80	.85
Wahoo Bark of Root, bags.	lb.	.32	.33
Bark of Tree, bags	lb.	.19	.20
White Pine Bark, Roseed, bags	lb.	.06	.08
White Poplar Bark, bags	lb.	.06	.07½
Wild Cherry Bark, Natural thin, Green	lb.	.06	.07
Rossed bales	lb.	.09	.10
Thick Rossed, bales	lb.	.04	.05
Wild Indigo Root, bags	lb.	.09	.10
Willow Bark, bags	lb.	.05	.05½
White, bags	lb.	.15	...
Witch Hazel Bark, bags	lb.	.05	.06
Leaves, bales	lb.	.06	.07
Wormseed, American, bags.	lb.	.05½	.06
Wormwood, Herb, Imp., bales	lb.	.08	.08½
Yellow Dock Root, bags	lb.	.07	.08
Yerba Mate, bags	lb.	.12	.15
Santa, bags	lb.	.07½	.08½

Labeling Glandular Remedies

(*Continued from page 450*)

he said, there have been marketed preparations from practically every gland in animals that correspond to glands in man. Some of these preparations have been useful, some have been found useless, according to Dr. Cullen. Some may be unknown quantities. Drug Control is willing to be shown.

At the same time, a drug expert of prominence in Washington has expressed the belief to Drug Markets that glandular preparations and their uses "constitute a great field for development, but one requiring the highest type of scientific attainment and technique. It is biological work of a very high order," he concluded, adding a forecast that some day glandular preparations will come into their own in a big way, for the scientific and medical fraternity, the drug trade, and the laiety.

Congress and the Drug Trade

(*Continued from page 439*)

probably be made to cut them down in the interest of economy. Removal of restrictions on medicinal liquor will be attempted, in behalf of the drug trade.

The tariff will come in for consideration by the new Congress. Democratic leaders have let it be known that whether or not they organize the House or the Senate, they have a record to be made in support of tariff revision. Frankly, however, many of them are not any too keen on the subject, in view of the business depression and the historic fact that tariff legislation immediately before a national election almost invariably reacts against the political party responsible.

A group of insurgent or progressive republicans in both houses of Congress profess to want to lower tariff rates on industrial or manufactured products. A combination of these elements with the democratic members of Congress will be in position to control both houses. There seems some question, however, whether a tariff revision program can be worked out that would command the harmonious support of these elements.

Amendment of the Sherman anti-trust law so as to permit a reasonable restraint of trade, for the purpose of conserving certain natural resources and stabilizing business, has been suggested by President Hoover. Modification of the law along some of these lines has been endorsed by drug trade and other associations. The United States Chamber of Commerce and various other influential organizations and interests have recommended anti-trust amendment so that only unreasonable restraint of trade would be prohibited.

This movement may possibly succeed. However, observation during a period of years has indicated that the average member of Congress has the provisions of the Sherman law against monopoly, restraint of trade in interstate commerce, etc., so deeply ingrained into his political consciousness, that it is difficult to get him to see any other angle of the situation that might perhaps warrant a change in that

BRITISH TARIFFS?

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law. So straight a thinker as Senator Walsh of Montana who has the best legal mind in the Senate, has said that if the anti-trust law is loosened up there must accompany it, price regulation by some government authority. Few of the anti-trust would-be amenders, it is believed, want government price fixing.

Wholesalers' Complaints

(*Continued from page 444*)

Service Wholesale Druggists" by H. J. Ostlund, and Mr. Ostlund devoted the second part of his address to this subject. Excerpts from Mr. Ostlund's observations on free deals:

"Abolition (of free deals) would meet with very considerable resistance on part of manufacturer. Evidence . . . not difficult to obtain if one will analyze . . . one typical deal. Item . . . for sale at retail at $1.00 . . . retail druggist pays $8.00 per dozen. If offered . . . one free with dozen, rate of discount is 7.75 per cent. . . . Would amount to about 60 cents on $8.00 transaction, and . . . actual cash discount of this amount . . . would cost (manufacturer) about 69 cents. Same article is sold to wholesalers for about 55 cents per item and . . . manufacture . . . of such proprietary brings gross profit of 75 per cent. or better. This means . . . cost (to) manufacturer about 15 cents . . . remaining 40 cents being advertising, distribution expense and profit. Of this 15 cents to produce . . . not over one-half, or 7 cents will be direct labor and direct materials. This 7 cents constitutes real out pocket cost to manufacturer to furnish free goods on special deals . . . There is not much likelihood that manufacturer will substitute discounts for free goods when he can get effect of 60 cent discount at 7 or 8 cent cost.

Considerable interest was displayed by both wholesalers and manufacturers in the address of Dr. Paul H. Nystrom, Professor of marketing, Columbia University. Excerpts:

"Free deal or advertising allowance is essentially nothing but price cut. Only difference is that free deal or allowance . . . makes it more difficult to figure just what price cut is . . . Use of free deal has now reached almost a farcial point.

"Through use of fake testimonials, through . . . promises that can never be fulfilled, through gross exaggeration of truth . . . and other shady devices, public belief in advertising has fallen lower than at any time since printed word publicity has been used in a large way.

"Pine board stores are cutting prices of some goods below cost. This is an unfair practice and there should be some legal remedy . . . Instead of total expense ranging from 25 to 30 per cent. of sales, (pine board) stores . . . have expense rate of 15 per cent or even less. Remedy is simple. If others have . . . way of selling toilet goods on gross margin of only 20 per cent. of sales, you can sell . . . profitably on same margin. First step . . . see where figures are misleading. Second . . . charge pharmacist's time as of value of clerk's time when selling easy moving goods."

St. Louis Survey

(*Continued from page 446*)

the retail studies. (2) A study of wholesaler-retailer relations, comprising an analysis of all purchases made by 300 retail druggists in the St. Louis market. (3) A study of wholesaler-manufacturer relations, covering three big wholesalers. It will determine the channels by which drug products reach the market, and define the position of the wholesale druggists as a service agency for the retailer.

Consumer demand is being studied by B. B. Aiken, merchandising specialist. It was originally intended to interview 200 selected consumers in order to secure data relative to consumer demand, around each of the ten stores being studied. This original plan may be altered, and a questionnaire of 50 questions mailed to several thousand customers. If this does not prove satisfactory, the original plan of personal interviews will be undertaken.

Identification of Rhubarb

(*Continued from page 448*)

Such a move on the Department would undoubtedly cause some disturbance in the rhubarb market for a while, since the Chinese shippers have mainly been shipping the later type of root for more than two years. Chinese exporters would have to become acquainted with the new conditions, and they in turn would have to educate the gatherers of the roots that the later type of root is no longer acceptable. Stocks of roots on the way here or in the hands of Chinese shippers would have to be disposed of to other countries, and new stocks would have to be obtained quickly.

Also if the later type of root is entirely excluded from the market in this country, it appears certain that consumers here will have to pay more for their rhubarb. This is indicated by the fact that the later type of rhubarb has always sold lower than the common round type, and that the market moved definitely lower when this material began coming into the market in a large way during 1929. Also a sudden demand for the common round type of rhubarb when there are no stocks available would undoubtedly push the market to abnormally high prices for a short period.

(*Continued from page 507*)

Solution of hydrogen dioxide (Sample A)	12	12	+ 2	+ 2	+ 2	+ 2
(Sample B)	12	+ 2	+ 2	+ 2	+ 2	+ 2
Spirit of ethyl nitrite	−2	− 2	+ 2	+ 2	+ 2	+ 2
Sulphurated potassa	12	12	12	12	12	12
Syrup of ferrous iodide (As to FeI_2 content)	12	12	12	12	12	12
(As to color)	12	12	12	12	12	12
Thymol iodide	12	12	12	12	12	12

The foregoing tables report on 33 of the 35 chemicals (or preparations) studied, the others being the two silver proteins which did not satisfactorily fit into tabulations. These are reported in a discussion of the individual chemicals.

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Index to Advertisers

Abbott Laboratories, No. Chicago, Ill. 496
Alsop Engineering Co., New York ..... Cover 2
American Potash & Chemical Corp., New York 486
Anchor Cap & Closure Corp., Long Island City, N. Y. 429
Armstrong Cork Co., Lancaster, Pa. 428
Art Tube Co., Irvington, N. J. 484

Bakelite Corp., New York ..... Insert facing 424
Bamberger, Bloch & Landesman, Inc., New York 482
Bond Manufacturing Corp., Wilmington, Del. 470
Bush & Co., Inc., W. J., New York 498

California Fruit Growers Exchange, Ontario, Cal. 494
Coignet Gelatines, New York 506
Colgate-Palmolive-Peet Co., Chicago, Ill. 498
Colton Co., Arthur, Detroit, Mich. 466
Compagnie Nationale des Aliments Naturels, New York 486
Crown Cork & Seal Co., Baltimore, Md. 422

Dodge & Olcott Co., New York 419
Dow Chemical Co., Midland, Mich. .. Inserts between 456 & 457
Dreyer Inc., P. R., New York 502, 506
du Pont de Nemours & Co., Inc., E. I., Passaic, N. J. 430

Franco-American Chemical Works, New York 478
Fritzsche Brothers, Inc., New York 460

Givaudan-Delawanna, Inc., New York 458
Gutmann, Ferdinand & Co., Brooklyn, N. Y. 470

Hamilton, A. K., New York 478
Heyden Chemical Corp., New York 490
Hoffmann-LaRoche, Inc., Nutley, N. J. 492
Huisking & Co., Chas. L., New York 484

Iliff-Bruff Chemical Co., Hoopeston, Ill. 427
Industrial Chemical Sales Co., Inc., New York ..... Insert between 488 & 489
Interstate Color Co., Inc., New York 498

Kiefer Machine Co., Karl, Cincinnati 466
Kimble Glass Co., Vineland, N. J. 423
Klipstein & Sons Co., Inc., E. C., New York 462

Leonhard Wax Co., Inc., Theodor, Paterson, N. J. 496

Magnus, Mabee & Reynard, Inc., New York 421
Mallinckrodt Chemical Works, St. Louis 432
Merck & Co., Inc., Rahway, N. J. ..... Insert facing 489
Mixing Equipment Co., Inc., Rochester, N. Y. 470
Monsanto Chemical Works, St. Louis Insert between 488 & 489

National Adhesive Corp., New York 468
New England Collapsible Tube Co., New York 431
N. Y. Quinine & Chemical Works, Brooklyn, N. Y. 512
Norwegian Cod Liver Oil Ass'n, Norway 506

O. & J Labeling Machine Co., Worcester, Mass ..... Insert between 424 & 425
Owens-Illinois Glass Co., Toledo, Ohio 426

Pacific Coast Borax Co., New York 504
Package Machinery Co., Springfield, Mass. 468
Parsons, M. W., New York 486
Penick & Co., S. B., New York 496
Pennsylvania Glass Products Co., Pittsburgh, Pa ..... Insert facing 456
Pennsylvania Sugar Co., New York 478
Pfizer & Co., Chas., Inc., New York ..... Insert facing 457
Phoenix Hermetic Co., Chicago, Ill. 417
Plaimar, Ltd., Perth, Western Australia 494
Powell & Co., Inc., John, New York 480

Rohm & Haas Co., Inc., Philadelphia, Pa. 480

Schering Corp., New York 482
Schliemann Companies, Inc., New York 462
Smith, J. Van Velsor, New York 498
Soc. An. Erboris, Verona, Italy 498
Stokes Machine Co., F. J., Philadelphia 464
Stokes & Smith Co., Philadelphia, Pa. Insert between 424 & 425
Sturge, John & E., Birmingham, England ..... Insert facing 425
Sun Tube Corp., Hillside, N. J. ..... Cover 4
Swindell Bros., Baltimore, Md. ..... Cover 3

Todd Co., A. M., Kalamazoo, Mich. 498

Ungerer & Co., New York 500
U. S. Industrial Alcohol Co., New York 474
van Ameringen-Haebler, Inc., New York 476

White Metal Mfg. Co., Hoboken, N. J. 425
Will & Baumer Candle Co., Inc., Syracuse, N. Y. 496
Wilson Laboratories, Chicago, Ill. 484
Wirz, Inc., A. H., Chester, Pa. ..... Insert facing 488